

2007

ANNUAL REPORT



Marine Institute
Foras na Mara

SERVING SCIENCE AND THE SEA

To the Minister for Agriculture, Fisheries and Food

In accordance with the requirements of the Marine Institute Act, 1991, I have the honour of presenting the Annual Report and Statement of Accounts of the Marine Institute for the year ended 31st December 2007.

Kevin Bonner, Chairman

The Marine Institute is the national agency which has the following general functions:

‘to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Marine Institute will promote economic development and create employment and protect the marine environment.’

Marine Institute Act 1991

OUR VISION

A thriving maritime economy in harmony with the ecosystem and supported by the excellence of our services

CONTENTS

INTRODUCTION AND ORGANISATION STRUCTURE	01	FINANCIAL STATEMENTS YEAR ENDED 31 DECEMBER 2007	
BOARD MEMBERS	02	REPORT OF THE COMPTROLLER AND AUDITOR GENERAL	50
CHAIRMAN'S STATEMENT	03	STATEMENT OF RESPONSIBILITIES OF THE BOARD	51
CHIEF EXECUTIVE'S REPORT	04	STATEMENT ON INTERNAL FINANCIAL CONTROL	52
CORPORATE SERVICES	05	ACCOUNTING POLICIES	53
IRISH MARITIME DEVELOPMENT OFFICE (IMDO)	07	INCOME & EXPENDITURE ACCOUNT	54
MARINE ENVIRONMENT AND FOOD SAFETY SERVICES	09	BALANCE SHEET	55
FISHERIES SCIENCE SERVICES	11	CASHFLOW STATEMENT	56
AQUACULTURE AND CATCHMENT MANAGEMENT SERVICES	13	NOTES TO THE FINANCIAL STATEMENTS	57
OCEAN SCIENCE SERVICES	15		
STRATEGIC PLANNING AND DEVELOPMENT SERVICES	17		
GENERAL ADMINISTRATION	19		
APPENDICES			
APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007	20		
APPENDIX 2 // IRISH PARTICIPATION IN EU RTD PROJECTS	27		
APPENDIX 3 // MARINE INSTITUTE PUBLICATIONS	28		
APPENDIX 4 // PUBLICATIONS	30		
APPENDIX 5 // CENSUS DATA FROM THE BURRISHOOLE SYSTEM 2007	35		
APPENDIX 6 // RESEARCH VESSEL PROGRAMME 2007	36		
APPENDIX 7 // FOREIGN MARINE SCIENTIFIC RESEARCH (FMSR) ACTIVITIES IN IRISH WATERS IN 2007	39		
APPENDIX 8 // CONFERENCES, EVENT AND WORKSHOP SPONSORSHIP IN 2007	40		
APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF	41		
GLOSSARY OF ABBREVIATIONS	47		

INTRODUCTION AND ORGANISATION STRUCTURE

INTRODUCTION

The Marine Institute is the national agency for marine research, technology, development & innovation (RTDI). We seek to assess and realise the economic potential of Ireland's vast marine resource; promote sustainable development of marine industry through strategic funding programmes and essential scientific services; and safeguard Ireland's natural marine resource through research and environmental monitoring.

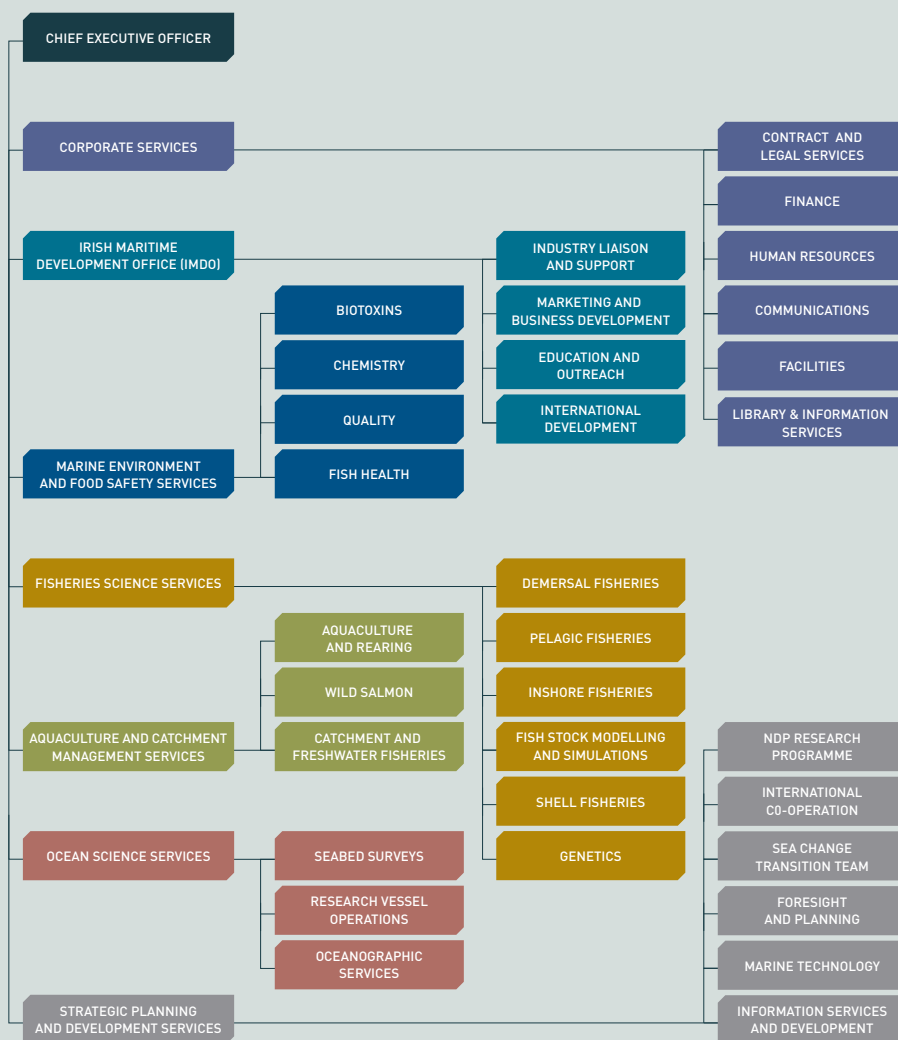
Ireland has a marine resource of 220 million acres under the sea, which is over ten times its land area. The Marine Institute is the State agency responsible for promoting the sustainable development of this vast marine resource through research and providing management advice to industry, the Government and EU. The Institute provides essential marine research services including:

- National research and development funding programmes
- Fish stock assessment
- Fish health services
- Marine food safety monitoring
- Environmental monitoring
- Research vessel operations
- Seabed mapping
- Data management

To provide these services to the highest degree of excellence and to plan for future developments, the Institute is structured into seven Service Teams, as outlined opposite.

This report highlights the key deliverables and progress made towards our vision during 2007.

ORGANOGRAM



BOARD MEMBERS

1. Mr. Kevin Bonner (Chairman) (2005 – 2008)

Kevin Bonner was educated at University College Dublin (BA), Trinity College Dublin (MSc Econ) and the King's Inns (Dip Legal Studies) and has spent most of his career in the Irish civil service, which he joined in 1967. He retired in 1997 as Secretary General of the Department of Enterprise, Trade and Employment, a Department with a budget of € 1.5 billion and 1,000 policy-oriented staff employed directly and 4000 indirectly in the Department's agencies – IDA, Enterprise Ireland, Forfas, FAS (Training Agency), Competition Authority, Patents Office, Labour Court, Labour Relations Commission, Health and Safety Authority, etc. Mr. Bonner has been a member of National Economic and Social Council and the Council of the Economic and Social Research Institute.

2. Ms. Terry Fleming (2004 – 2009)

A Tax and Financial consultant, Terry Fleming has over 20 years experience as a corporate tax adviser with PricewaterhouseCoopers. She has worked on a wide variety of tax consulting, due diligence and corporate restructuring projects for a portfolio of major Irish and multinational clients, both publicly quoted and privately owned. Educated at UCD and DCU, she is a member of the Irish Taxation Institute. She is currently working as an independent consultant.

3. Mr. Richie Flynn (2007 – 2012)

Mr. Flynn is currently the executive secretary of the IFA's Aquaculture Section, incorporating the Irish Salmon Growers' Association, the Irish Shellfish Association and the Irish Trout Producers' Group. He is the current Chairman of the EU Commission's Aquaculture Advisory Committee. Mr. Flynn holds a Bachelor of Arts degree in Communications Studies from Dublin City University and is a former member of the Irish Executive Council of the National Union of Journalists (NUJ).

4. Prof. Bernie M Hannigan (2007 – 2012)

Professor Hannigan is Pro-Vice Chancellor (Research & Innovation) at the University of Ulster, Northern Ireland. Previously she was Dean of the Faculty of Life & Health Sciences, also at Ulster. Professor Hannigan is an immunologist with particular interest in the relationships between nutrition and immune competence. Educated at Trinity College Dublin and the Royal College of Surgeons in Ireland, she has published almost 100

peer-reviewed papers, supervised 20 students to successful doctoral graduation and attracted significant external research funding from a variety of UK and international sources. Professor Hannigan is currently responsible for ensuring the quality of research carried out across all disciplines in the University and for the commercial development of research findings. Externally she is director of a range of organisations that include science parks, knowledge/technology exchange and the support of emerging technology-based companies. Her membership of the Board of Invest Northern Ireland ensures that the potential economic contribution of the universities is included in regional development strategy within the province.

5. Ms. Dairine MacFadden (2005 – 2010)

Dairine Mac Fadden is a solicitor originally from Donegal but now based in Dublin. She graduated from UCD with a law degree (B.C.L.) and returned there later to do a Diploma in European Law, followed by a Masters Degree in Law by thesis on the Common Fisheries Policy. She has worked as in house solicitor for RTÉ and also for TG4 and has represented commercial fishermen throughout Ireland while in general practice. She is currently engaged as a consultant in a solicitor's practice in Dublin.

6. Mr. Joey Murrin (1998 – 2008)

Formerly Chairman of the Irish Fishermen's Organisation 1973-1979, Mr. Murrin was also one of the founding members of the Killybegs Fishermen's Organisation and served as Chief Executive from 1979 until his retirement in 2001. He has served two terms in office with An Bord Iascaigh Mhara (BIM), one as Director and one as Chairman. He was appointed by the government in 2006 as a member of the Sea Food Strategy Review Group, which produced what is known as the "Cawley Report" on the industry. Mr. Murrin is the current Chairman of the National Salmon Commission, a position he has held since 2001.

7. Dr. Eleanor O'Higgins (2007 – 2012)

Dr. Eleanor O'Higgins (BA, MSc, MBA, PhD) is on the faculty of the Business Schools at UCD and a Visiting Fellow at the London School of Economics and Political Science. She specialises in teaching, research and publications in corporate governance, strategic management, business ethics and corporate social responsibility. She is

the author of numerous papers in academic and professional journals, newspaper articles, book chapters and case studies. She is a director of Transparency International Ireland and a member of the Press Council of Ireland and of the Board of Management of The Institute of Directors Centre for Corporate Governance at UCD. Previously, she worked as a research psychologist at Harvard University Medical School, as a clinical psychologist in the Irish health services, and as staff development manager in RTE. She has served on the board of directors of IDA Ireland and of the Well Woman Group of health clinics, and has held various leadership positions in the US Academy of Management.

8. Dr. Emer Rogan (2007 – 2012)

Emer Rogan is a lecturer in the Dept. of Zoology, Ecology and Plant Science, University College, Cork. She completed her BSc in UCD in 1984 and her PhD in UCC in 1990 on plankton ecology. Since then, her main research focus has been on marine mammal ecology and biology, marine mammal fisheries interactions and also the functioning of marine ecosystems, relating dietary analysis to bioaccumulation, migratory patterns and oceanographic and bathymetric parameters. She has supervised over 20 MSc and PhD students in marine mammal and fisheries ecology and has authored many papers in academic and professional journals, press articles and book chapters. Dr. Rogan is a member of the Scientific committee (and convener and chair of the small cetacean sub-committee) of the International Whaling Commission, the IUCN Cetacean Specialist Group and ICES working group on Marine Mammal Ecology.

9. Mr. Michael Walsh (2007 – 2012)

Michael Walsh was one of the founders of the Irish South & East Fishermen's Organisation, which was formed in 2002. He then worked at setting up the Irish South And East Fish Producers Organisation which received recognition in December 2004. He currently holds the position of CEO of the Irish South & East Fish Producers Organisation and is Chairmanship of the Federation of Irish Fishermen, which was founded late 2006. Mr. Walsh, has some 15 year's fishing experience and a vast knowledge of various types of sea fishing and fishing patterns. He crewed on board many sea fishing vessels, before becoming skipper in 1994 following his completion of the Skipper Limited Certificate of competency at the BIM Fisheries School in Greencastle, Co. Donegal.



CHAIRMAN'S STATEMENT

2007 saw the launch of *Sea Change* – A Marine Knowledge, Research and Innovation Strategy for Ireland 2007 – 2013, a programme facilitated by the Marine Institute but involving the broadest possible spectrum of stakeholders in the State, semi-state and private sectors to co-ordinate and direct marine research and innovation in Ireland over the next seven years. It is assisted by a special *Sea Change* Management Unit, based at the Marine Institute and guided by a number of High Level Steering Committees attended by stakeholders to the programme.

Funding under *Sea Change* has already begun to flow to research groups investigating new opportunities in wave energy, biotechnology, sustainable fisheries and aquaculture, and sensor research. Further projects and programmes aimed at reaching the *Sea Change* objectives have been launched under the National Development Plan, the Beaufort Awards, the Integrated Marine Exploration Programme and the Network and Travel Initiative.

Further afield, the Institute played a pivotal role in facilitating both national and European marine research community responses to the European Maritime Green Paper Consultative Process. This was accomplished in Ireland through hosting a dedicated web site and organising a National Stakeholder Conference, as well as supporting the preparation of the Irish government response, which was published in May. In Europe, the Institute's CEO chaired key meetings in Brussels and in Aberdeen, the latter of which led to the *Aberdeen Declaration – A New Deal for Marine and Maritime Science* – which had a significant influence on the EU Maritime Strategy Blue Book and Action Plan.

The Institute also played a very practical role in the support of our marine industries during the year in marine food, technology and shipping. Our fishing industry benefited from the advice put forward by our annual "Stock Book", which assisted the Minister and her team in quota negotiations in Brussels. The Institute also played a key role in leading the reform of the advice given by the International Council for the Exploration of the Seas (ICES) towards the delivery of a more holistic "ecosystem approach" to fisheries management than the traditional 'stock by stock' method. Scientists from the Institute have also been working closely with their colleagues in An Bord Iascaigh Mhara (BIM) during the year and intend to continue and enhance this collaborative approach in 2008.

Meanwhile the aquaculture industry was supported by a wide range of services: harmful algal bloom monitoring, residue testing, sea lice inspections and a fish and shellfish pathology service, offered by the Institute. In particular, a major project to investigate how the establishment of a pan-European research network or "Technology Platform" might assist the fish farming industry in establishing offshore aquaculture as a sustainable and viable alternative to traditional inshore methods got underway under the direction of our staff based at Newport, Co. Mayo and in the Galway headquarters.

The Newport facility is located at the catchment of the Burrishoole River and possesses one of the longest continuous records of salmonid and eel migration in the world. This information is now becoming of unique importance as a long-term dataset from which to study variations that might be caused by rapid climate change. The Institute is also one of the prime movers behind SALSEA Merge, an ambitious project aimed at researching possible causes of decreased survival of the Atlantic salmon at sea, as well as a €2.75 million programme to investigate the marine biology of the European Eel.

It is also evident that the national wild salmon conservation programme, to which the Institute contributed technical advice, has boosted returns of wild salmon, not only to the Burrishoole system, but also nationally. There is however, much more work to be done, since many Irish rivers still remain below their conservation limit.

Regarding environmental issues, the Institute continued to provide expert services to our parent Department, as well as to the Environmental Protection Agency (EPA) and the Food Safety Authority of Ireland (FSAI), as well as carrying out an ambitious programme of monitoring and applied research in 2007. Advice was also supplied to the Department on such diverse issues as foreshore leases, dumping at sea applications, aquaculture licences and environmental monitoring.

The Institute also significantly expanded its sea-going and oceanographic support services during the year to accommodate not only new projects under the *Sea Change* programme, but also a number of significant seabed mapping projects. These included the Joint Irish Bathymetric Survey (JIBS) of the seabed around the northern coast of Ireland, the Mapping European Seabed Habitats (MESH) programme and of course, INFOMAR – a major project to map Ireland's productive inshore waters. New projects, involving cutting-edge

technology vital to the delivery of *Sea Change*, included the delivery of an online wave forecasting service, the procurement of vital infrastructure such as ARGO floats, an autonomous underwater glider to take oceanographic readings at varying depths, three inshore buoys and a high-performance computer.

Other areas of emerging technology the Institute was engaged in during 2007 included marine functional foods, renewable ocean energy and marine biodiversity. In Galway Bay, an ambitious project to place remote underwater observatories got underway and the Institute's wave energy test site was the first in world to ever host two different prototype devices at the same time.

While the global shipping market enjoyed one of its longest booms in modern history, the Irish Maritime Development Office of the Institute successfully focused on new and high growth emerging sectors such as maritime commerce and ship finance. The Irish ship finance and leasing sector is now ranked within the top 15 ship finance locations in the world. IMDO also continued to develop their online version of the "Follow the Fleet" programme for schools, allowing pupils to track Irish ships as they move about the world.

All these developments and more were communicated to the public and our stakeholders through a vigorous media campaign which has significantly increased awareness of the Institute, and the value of science as a tool for sustainable development, both at home and abroad.

Throughout 2007, all this work continued to be underpinned by constant focus on our own corporate governance. I am indebted to the Board Internal Audit Committee, who ensured that an effective system of internal financial control was maintained that provided a solid foundation for the Marine Institute's impressive achievements throughout the year.



Kevin Bonner
Chairman: Marine Institute



CHIEF EXECUTIVE'S REPORT

The last twelve months have seen the Marine Institute and stakeholders move forward under *Sea Change* with a number of world-class projects which, as little as ten years ago, would have been considered well beyond the abilities of Ireland's marine science community. Our established expertise in seabed mapping, with our partners the Geological Survey of Ireland in the south and the Maritime and Coastguard Agency in the north, was again demonstrated by the INFOMAR and JIBS inshore surveys. Our growing dialogue with industry and our ability to explore entirely new applications of science and technology to practical and vital issues was demonstrated through the Sustainable Fisheries, Ocean Energy, Biodiscovery and Advanced Technology programmes, while Ireland's growing reputation as an emerging centre of excellence in marine science brought us increasing credibility and influence on the European stage. As a result, I can again report great progress across all areas of Institute activities in 2007, as well as the following highlights:

The Marine Institute played a vital role in facilitating responses from both the national and international marine research community to the European Maritime Policy Green Paper Consultative Process. This was done in Ireland by providing technical and administrative support to the Inter-Departmental Steering Group, facilitating public consultation through a national workshop and a dedicated website and by supporting the preparation of the Irish government response. At European level, I had the honour of chairing a number of key debates in Brussels, Lisbon, Bremen and particularly at Aberdeen – the latter of which produced “The Aberdeen Declaration – A New Deal for Marine and Maritime Science” – which had a significant influence on the resulting EU Maritime Strategy Blue Book and Action Plan.

Back in home waters, our two research vessels completed a total of 555 days of scientific missions between them, ranging from fisheries and environmental surveys, seabed mapping and the deployment of wave energy devices, to groundbreaking research on marine salmon survival and the training of the next generation of marine scientists. A new geodatabase was developed that will allow the detailed seabed charts created during the INFOMAR survey to be freely available not only to Institute staff, but also to the general public, via the Internet.

Our newly created Marine Climate Change Section was established under the Government's Strategy for Science, Technology and Innovation (SSTI) and

has already begun to build on historic data sets and current information to produce an Ocean Climate Status Report for Ireland. This new Section will also work closely with our colleagues in the EPA, Met Éireann, NUI Maynooth and other key Irish players to not only optimise current and planned monitoring activities in marine and freshwater, but also to produce a National Ocean Climate Change Research Plan for Ireland by the end of 2008.

Improved dialogue between Marine Institute staff and the fishing industry has created a deeper understanding on both sides. This has led to the Institute playing a key role in the reform of the way scientific advice is delivered to the EU and national stakeholders by ICES (the International Council for the Exploration of the Seas). This includes a new unified advisory committee to provide advice based on a holistic ecosystem approach that takes the needs of fishermen, fish stocks and the environment they both inhabit into account.

To facilitate the sea-going data gathering required to support such detailed advice, the Institute secured some €2.2 million in EU funding during 2007. This supported over a thousand scientist-days at sea on the national research vessels, complemented by 195 days on commercial fishing vessels.

Work at sea also included a pilot study between the Institute and the Atlantic Salmon Trust (UK) on the genetic identification of salmon stock down to region, or even river of origin. This was important in laying the foundation for SALSEA Merge – a major undertaking to study the survival of salmon smolts at sea, which is described later in this report. Lobster restocking work was carried out in Clew Bay under the EU AquaReg programme.

Throughout the year, the Institute maintained its focus on the application of science and technology to support new and existing marine industries. An EU Sixth Framework Programme project to establish a network or “technology platform” that would assist fish farmers in establishing offshore aquaculture as a sustainable and financially viable alternative to inshore farming methods was undertaken. Our Fish Health Unit carried out 1,676 site inspections on marine and freshwater finfish farms as part of routine monitoring, as well as sampling and testing large numbers of finfish and shellfish as part of their monitoring and research programmes. Marine food producers of all kinds were supported by Institute services (which are independently quality certified) in the field of environmental monitoring and food safety, regarding screening for chemical residues and marine biotoxins.

In the field of new technologies as opportunities for Irish industry, our pilot Wave Energy Test Site in Galway Bay became the home of a second prototype device during 2007. The Institute also identified a suitable location for a full scale ocean energy test site off the west coast of Ireland, continued to fund the “Blue Power” initiative in support of the Ocean Energy Research Team at University College Cork, and hosted a meeting of the Ocean Energy Industry Forum.

Further opportunities are being explored in the field of remote sensor research with the *SmartBay* and *SmartCoast* projects, aimed at developing Irish expertise in remote sensors to measure a wide range of parameters in marine or freshwater environments in partnership with the EPA. Irish expertise in novel substances derived from marine organisms is being developed through the Marine Biodiscovery Programme, while the Marine Functional Foods Programme is exploring opportunities for Ireland in this rapidly expanding worldwide industry.

Meanwhile, our Irish Maritime Development Office is constantly researching new and innovative methods to improve the efficiency of companies operating in this area. An internal review of financial incentives in European markets with a view to creating a new shipping investment scheme in Ireland was carried out, as were various analyses of the Irish seafaring market. IMDO also hosted a very successful “Marine Money” conference during the year, aimed at attracting investors to this sector.

During this year of increasing opportunities and expanding work programmes, the Institute has never lost sight of the need to strengthen and improve the quality of our services to our stakeholders. This scenario has placed many challenges before our staff – which have always been accepted as part of our shared adventure. I salute them for this commitment to our shared vision and thank them for their continued dedication and professionalism.



Peter Heffernan
Chief Executive



CORPORATE SERVICES

DIRECTOR'S STATEMENT

2007 was a year of consolidation and strengthening after the completion of the relocation of approximately 140 staff to the new Marine Institute's headquarters in Oranmore in 2006. Our focus was on delivering a consistent, customer focussed service with an emphasis on high quality service delivery and strong corporate governance. Key developments in 2007 included:

- Excellence Through People Gold Standard Accreditation was awarded to the Institute for the second time in recognition of our human resource management programme. The primary purpose of the standard is to encourage the development of employees to their full potential so as to maximise their contribution to the organisation.
- The Marine Institute was requested by an interdepartmental steering group to co-ordinate the EU Maritime Green Paper National Consultation Process for Ireland. The work of the Institute's co-ordination team was commended for the success of the process by both the interdepartmental steering group and the European Commission.
- An important HR review process with senior management commenced in 2007. The Staff Handbook was launched to staff in April and a bespoke learning and development programme operated very successfully throughout the year.
- The positive profile of the Marine Institute and the *Sea Change* strategy was communicated to important stakeholders through a vigorous media campaign culminating in significant coverage on both radio and the print media.
- A new risks register and policy have been drafted to ensure a robust approach to risk management, including appropriate structures, processes and skills. This will be finalised in consultation with the Board during 2008.
- Efficiencies continued to be achieved through the award of key contracts through tender processes resulting in significant savings that were reinvested in core programmes to meet expanding service delivery demands.



Ms. Caroline Hepburn
Director, Corporate Services



COMMUNICATIONS

In line with Communications mandate "to address the national blind spot regarding Ireland's marine resources" the communications team moved forward in 2007 with its co-ordinated plan to reach a number of important audiences – including key decision makers at national and EU level, the education sector, coastal communities, and the general public. This resulted in wide media coverage in the print and broadcast media and a dramatic rise in the number of hits on the Institute's web site at www.marine.ie of up to 760, 436 page views during the year.

The "Galway Explorers" marine education programme for primary schools completed its pilot phase with a very positive evaluation. As part of this programme, a five-day primary teacher training course on marine subjects was held at the Institute's Oranmore headquarters in July and a special "Science Meets Art" workshop and concert around marine themes was supported. The development of this programme will be under consideration in early 2008.



HUMAN RESOURCES

The focus for the Human Resource (HR) team during 2007 was the continued delivery of a best practice, customer focused support service to the Institute.

2007 saw the HR team co-ordinate the Excellence Through People assessment by FAS on behalf of the Institute, successfully securing Gold Accreditation for the second time.

During April, taster sessions were run as part of Learning & Development Month which gave employees the opportunity to try out snap shots of courses they were interested in. This helped a number of employees focus on their personal and team development.

Health and Safety remained of paramount importance with no major accidents or incidents to report in 2007 due to the ongoing and effective Partnership model used to co-ordinate this area within the Institute. Health and Wellbeing Week in October promoted the importance of having an effective work-life balance with a focus on managing pressure, eating healthily and exercising often.

Sixty three posts were recruited in support of various temporary and long standing roles, resulting in a new and improved induction programme being implemented to introduce the new joiners to the Institute.

Efficiencies remain a major focus and to this end a comprehensive review of HR Management Information Systems was carried out during the year. This saw the selection of an electronic system to manage Performance Management as well as the award of a contract for an integrated HR, Pensions and Payroll system which will be implemented in 2008.

FACILITIES

The Facilities Team, located in Galway, Newport and Dublin, continued to effectively manage the daily operations throughout the different offices and laboratories with a record 35,000 incoming telephone queries.

The Stores Department set up an improved stock taking and ordering system for laboratory consumables, enabling an efficient and streamlined procurement system to be put in place, which delivered immediate benefits to staff.

Efficiencies were gained through the awarding of contracts for mechanical and electrical (M&E) maintenance services, cleaning and stationery. The awarding of the M&E contract was a major undertaking, due to its technical nature requirement. Comprehensive specialist preventative maintenance contracts are in place

together with an on-site engineer to ensure a continuous service to our customers.

FINANCE

Efficiencies, value for money and strong corporate governance were key corporate objectives of the finance department, with 13 internal audits all indicating a strong focus on adherence to public procurement procedures and detailed budgetary planning. The production of the annual financial accounts, together with the development of the fixed asset register were key milestones for the year.

ACCESSIBILITY

The Institute was fully compliant with the Disability Act during the year.

THE ROLE OF CORPORATE SERVICES IS TO PROVIDE A QUALITY SUPPORT SERVICE THAT PROMOTES, ADVISES, COMMUNICATES AND ASSISTS WORK ACROSS THE ORGANISATION IN A FRIENDLY AND EFFICIENT MANNER.



LIBRARY SERVICES

A comprehensive review of the role of the library was undertaken with a key focus on knowledge management and the efficient provision of access to information in the most cost effective way – all in a manner which conforms with international best practice. A major step forward in modernising the management of the library resources was achieved with the implementation of a new electronic management system, which will enable utilisation of the library resources to best effect by both internal and external users. The library team also initiated a number of networking initiatives with external libraries aimed at maximising collaborative opportunities to improve collection of and access to research information.



IRISH MARITIME DEVELOPMENT OFFICE (IMDO)

DIRECTOR'S STATEMENT

The Irish shipping services sector displayed positive signs of expansion in 2007 despite an increasingly challenging domestic and international environment. The IMDO continued to work closely with the Irish shipping cluster across a broad number of thematic program areas, such as Business Development, Maritime Education Support, Market Intelligence & Research. The IMDO also hosted a number of key international conferences in Ireland in 2006, including the Coastlink Conference in June and the Marine Money Ship Finance Event in October. Both events received excellent local support and media interest. More importantly, they underlined Ireland's growing reputation as a Global Shipping Services Centre. The IMDO maintains a regular dialogue with key stakeholders and industry in the domestic Irish shipping market, as well as providing expert advice to the Irish Department of Transport.

The Irish shipping and export market continued to face cost competitiveness challenges in 2007, primarily due to further appreciation of the Euro against the Dollar and Sterling. Ongoing volatility in oil markets and

prolonged historically high prices added to operating costs. There was growing uncertainty surrounding economic prospects for the first time in a number of years, largely due to the unclear and ongoing implications for the wider global economy relating to issues in the US and global financial markets.

Against this economic backdrop, the domestic shipping market again produced another resilient performance in 2007. According to the Irish Central Bank preliminary estimates forecast that the Irish economy expanded by 4.75% (GDP) in 2007. This growth is again reflected in early estimates of shipping throughout in key utilised trades at Irish ports for last year, which we forecast will be about 9% for Load-on/Load-off (Lo-Lo) trades and about 6% in Roll-on/Roll-off (Ro-Ro). Our analysis suggests that growth was slightly slower over the second half of 2007 and in particular in the final three months to the year end, with a fall off in construction materials a notable underlying factor. The IMDO will publish a full analysis of trends and developments in the Irish and Global shipping markets in April 2008, with its Fifth Annual Maritime Transport Economist bulletin.

The current international environment will no doubt create pressure for greater competitiveness, quality and efficiency in the sector in 2008. The IMDO look forward to continuing to assist and support Irish companies and their employees in developing and expanding their operations in the challenging environment ahead.



Mr. Glen Murphy
Director, Irish Maritime
Development Office (IMDO)



SUPPORTING EDUCATION DEVELOPMENT

The IMDO works closely with the National Maritime College of Ireland in Cork and provides direct support in securing seagoing placements for Irish cadets. Our strategy has been to focus on targeting blue chip operators outside the established training avenues and within identified niche trades. The IMDO succeeded in sourcing new cadetships with major international companies in both the cruise and offshore sectors.

The IMDO continued to manage the government's Seafarer Training Grant programme in 2007. Through the use of the C-Farer online system all sea service payments to both companies and cadets were made in a timely and efficient manner, securing the position of the Irish grant as one of the most efficient in place. In addition to the support of cadets the IMDO maximised the grant allocation by supporting significant numbers of officers studying towards higher certificates of competency, those undertaking revalidation of tickets, and junior officers serving with Irish flagged vessels undertaking the Mate/Masters 3000 GT course. Over the past three years the ISEAS grant has funded training placements for more than 180 deck and engineering cadets while also funding more 70 Irish seafarers to up-skill and achieve higher certificates of competency.

Further highlights in this program included the launch of the web based curriculum integrated resource for schools "Follow the Fleet", initiation and support of the Institute of Chartered Shipbrokers Diploma program at NMCI, and the successful RDS Higher Options careers event.



RESEARCH AND INNOVATION

The IMDO carries out a mixture of in-house fundamental/technical analysis and, from time to time, also procures specific contracted research from the market. The in-house research includes regular market analysis and commentary. In April, the IMDO produced the Fourth Annual Irish Transport Economist. The IMDO also produced a series of eight shipping reviews on Ireland-Intra-European trade and shipping markets. In 2007 the IMDO completed a review of Irish maritime transport sector 1995-2005 for the Department of Transport. An internal review of financial incentives in European markets with regards to creating a new shipping investment scheme in Ireland was also undertaken, as was an internal statistical and technical analysis of the Irish seafaring market.

Finally, web traffic through IMDO's web based e-platforms increased by more than 26% in 2007, reflecting greater activity in the national marketplace as well as a greater interest from overseas.

BUSINESS DEVELOPMENT

The global shipping market is currently enjoying one its longest booms in modern history. In 2007 IMDO business development activity continued to focus on exploring opportunities within the global shipping sector, in particular on new and high growth emerging sectors, such as maritime commerce services and ship finance. These efforts were rewarded with an unprecedented level of activity coming from both national and international businesses. In total 75 development projects were activated in 2007. A total of seven shipping companies initiated due diligence for entry into Irish tonnage tax with four submitting tonnage tax applications before the end of December and the remainder seeking to complete their application in early 2008. Significantly, six of these shipping firms are non-Irish firms intending to establish strategic management operations in the country.

In 2007 IMDO assisted several noteworthy start up operations in ship management and operations such as Seabess in the coastal bulk market and HydroServ in the offshore survey market. The IMDO also assisted with the start up of Ireland's first dedicated marine recruitment agency, which has quickly expanded its operations here during its first 12 months.

The rapidly emerging Irish ship finance and leasing sector is now ranked within the top 15 ship finance locations in the world. New and existing companies will continue to reinforce the Irish maritime clusters skills base, and also have the capacity to generate important overseas earnings for the Irish economy. The emergence of high value-added sectors in Ireland additionally provides indigenous maritime companies with the ability to source and price these services locally. This trend is underlined by CSO data for 2007 which illustrates that Ireland has transformed itself from being an importer of international shipping services in 2001 to a net exporter of shipping services today.

Companies with a multi-country presence have become an important stimulus for domestic companies to remain globally competitive. Irish companies maintained their outward investment programs in 2007, during which time the IMDO assisted a number of Irish companies to explore a diverse number of overseas foreign projects. The IMDO leveraged ongoing support from Irish embassies in key locations and also from other development agencies such as the IDA. The IMDO supported Irish companies on business development missions to Norway and also supported the Cruise Ireland mission to the USA in March.

THE IRISH MARITIME DEVELOPMENT OFFICE HAS A STATUTORY MANDATE TO PROMOTE AND DEVELOP GROWTH IN THE IRISH SHIPPING SECTOR AND TO ATTRACT TO IRELAND ADDITIONAL MARINE RELATED OPERATIONS, ALONG WITH KEY PLAYERS IN INTERNATIONAL SHIPPING AND ANCILLARY SERVICES.



MARINE ENVIRONMENT AND FOOD SAFETY SERVICES

DIRECTOR'S STATEMENT

The Institute provided scientific services on food safety and marine environment in 2007 to the Irish seafood sector and to State agencies such as the Department of Agriculture, Fisheries & Food (DAFF), the Environmental Protection Agency (EPA) and the Food Safety Authority of Ireland (FSAI). Scientists in the Marine Environment and Food Safety Services (MEFS) team carried out a full programme of applied research and monitoring in the areas of shellfish safety, fish health and the marine environment. This scientific work forms the platform for the Institute's advice to government agencies and the EU on seafood safety, marine environment, marine licensing, spatial planning and fish health.

The Marine Environment team is committed to achieving high quality and to providing excellent services to our clients. A total of 25 test methods, covering the full range of monitoring

in Shellfish Safety, Residues, Fish Health and Marine Environment Chemistry, are accredited in accordance with ISO 17025 by the Irish National Accreditation Board (INAB).

The MEFS team carried out an ambitious programme of monitoring and applied research in 2007. Work continued on NDP, EU and INTERREG funded projects,

- BIOTOX on validation of alternative methods for marine biotoxins
- PHYTOTEST, Development of gene probes for harmful Phytoplankton species
- MATSIS, Methods of Assessment of Trophic Status in the Irish Sea
- IMAGIN, Irish Sea Marine Aggregates Initiative

The NDP funded Strategic Project on Pancreas

Disease continued in 2007. The partners in the project are the Queen's University, Belfast, Vet-Aqua International and the Marine Institute. The study aims to increase our knowledge of the epidemiology of Pancreas Disease, as well as improving diagnostic capabilities. The Institute continued to build research links with Norway and Scotland in this area. The Marine Institute and Dublin Institute of Technology collaborated on a project 'Integrated approach to toxicity valuation of Irish marine sediments'.

The Institute provided advice to the Department of Communications, Marine & Natural Resources, dealing with Foreshore Lease and Licence Applications, Dumping at Sea applications, aquaculture licences and monitoring. Team members took part in the second Strategic Environmental Assessment of Oil & Gas licensing in the Porcupine Basin. The team provided scientific

SEAFOOD SAFETY

The Marine Institute is the EU Designated Irish National Reference Laboratory for Marine Biotoxins and National Reference Laboratory for monitoring bacteria and viruses in bivalve molluscs. The Biotoxin Unit provides a weekly monitoring service, which includes monitoring of phytoplankton and biotoxins in shellfish flesh, for over 50 shellfish production areas. The programme ensures Irish compliance with EU regulations on shellfish safety. The Marine Institute met its target, with over 95% of results published within three working days. Results of over 2,500 analyses were issued by Fax, e-mail and SMS text messages to regulators including the FSAI, Government Departments and the shellfish industry and published on the Institute's Web site at <http://www.marine.ie/habsdatabase>. The Shellfish Microbiology Unit has developed methods for the detection of norviruses using real-time polymerase chain reaction (PCR).

The Eighth Irish Shellfish Safety Scientific Workshop was organised in association with the FSAI and BIM and took place in the Institute's facilities, Galway on the 5th of December.



advice to the EPA and to River Basin Districts on the Water Framework Directive. The Institute continued discussions with EPA and Government on the resourcing of the monitoring programme for plants, benthic organisms and chemistry in transitional and coastal waters to meet the needs of Directive 2000/60/EC.

The team worked with Marine Institute colleagues in the implementation of the *Sea Change* Marine RTDI Strategy for Ireland, 2007 to 2013.

Micheal O'Connell

Mr. Micheal O'Cinnéide
Director, Marine Environment
and Food Safety Services



FISH HEALTH

The Fish Health Unit (FHU) is the designated National Reference Laboratory for Fish Diseases as well as the designated National Reference Laboratory for Mollusc Diseases. It supports the aquaculture industry and inland fisheries in maintaining Ireland's fish health status through the provision of statutory services and diagnostic support.

- In 2007, all marine and freshwater finfish sites were inspected and 1676 finfish were tested for the presence of the diseases listed in Directive 91/67/EEC.
- Under the same Directive, all *Ostrea edulis* growing areas were tested in spring and autumn for the presence of the parasites *Bonamia ostreae* and *Marteilia refringens*. In total, 1263 oysters were tested. Following the isolation of *Bonamia ostreae* in Lough Swilly, the Institute carried out an epidemiological investigation to determine the source of infection and to ensure that there was no further spread of the parasite.
- In addition to statutory testing, 319 molluscs and 1709 finfish were received into the laboratory for diagnostic purposes. In support of the export of salmon eggs to Chile, 3,662 samples were tested for OIE listed diseases.

- On the research side, 1170 wild fish were screened for IPNV and 60 fish were tested as part of the NDP funded project, "Site investigations and disease management of the pancreas disease virus in Irish farmed salmon."
- FHU staff screened 120 aquaculture products for the presence of anti-microbial inhibitors under the Residues Directive 96/23/EC.
- The FHU provided regular advice to the Department of Communications, Marine and Natural Resources and the Department of Agriculture, Fisheries and Food on the use of veterinary medicines (10); finfish and shellfish movements within the country (84); finfish imports for aquaculture purposes (22) and exports (38); shellfish imports (26) and exports (5); imports of ornamental fish from Northern Ireland (152). The Institute provided technical and policy support to Department of Agriculture, Fisheries and Food on the implementation of the new EU Directive on fish and shellfish health, 2006/88/EC.

MARINE CHEMISTRY

The Institute worked with Department of Communications, Marine and Natural Resources and BIM to continue the monitoring programme for chemical contaminants in shellfish, to meet national obligations under the Shellfish Waters Directive, 79/923/EC. Oysters and mussels from 31 locations were tested for trace metals, PCBs and pesticides. A range of fin-fish species landed at four major Irish ports were also tested for trace metals, PCBs and pesticides. The Institute delivered on the annual residues monitoring report to the Department of Agriculture, Fisheries and Food and the FSAI, as it has done each year since 1999. The team developed a liquid chromatography-mass spectroscopy (LC-MS) based method for the detection of malachite green in finfish. The Chemistry team worked with FSAI and the seafood industry on surveys to underpin the safety of fishery products, including studies on persistent pollutants such as dioxins and brominated flame retardants in Irish seafood. The Institute also provided data on cadmium levels in crabs, which was valuable in re-opening markets in some EU countries.

The team provided data and contributed to assessments of nutrients and pollutants in the marine environment, as required under the OSPAR convention and further participated in an ICES-led trialling of novel passive sampling techniques. Staff provided advice to expert committees such as the Marine Licence Vetting Committee, the Corrib Gas Environmental Monitoring group, Water Framework Directive groups, ICES and OSPAR.



FISHERIES SCIENCE SERVICES

DIRECTOR'S STATEMENT

Sowing the seeds of change in relation to the future delivery of scientific advice on the fisheries resource was a key feature of Fisheries Science Services (FSS) strategy for 2007. The International Council for the Exploration of the Seas (ICES) is the main international forum where resource assessment and scientific advice are conducted. FSS played a key role in leading the reform of the ICES advisory process. The reforms were agreed in 2007 and are built around a new unified advisory committee that can promote the delivery of ecosystem advice coupled to a more professional and strategic management of advice delivery to the major clients (e.g. the EU). Another key change agent was the awarding of a Beaufort award to a consortium of the Marine Institute, University College Cork and Queens University Belfast on the Ecosystem Approach to Fisheries Management (EAF). This award will secure a leading ecosystem scientist to join the FSS team in order to accelerate the incorporation

of ecosystem principles into our advisory work. These important changes, seeded in 2007, will grow to have a profound impact on the way we conduct our business. 2007 was also a successful year for securing both national and EU funding for various fisheries research projects. Working closely with BIM was also a key area for FSS in 2007 and this work will continue to develop in 2008. Servicing the needs of our major client (DAFF) was also a high priority and FSS provided scientific support for a number of major EU and national meetings related to fishing opportunities for the Irish fleet.

Dr. Paul Connolly

Dr. Paul Connolly
Director, Fisheries
Science Services



STAKEHOLDERS

Working with stakeholders is a very important part of the Ecosystem Approach to Fisheries Management and FSS were involved in a number of Science Industry Partnership (SIP) projects in 2007. A key project focused on the assessment of the monkfish stock off the west of Ireland using surveys carried out on commercial vessels. This work was carried out with the Irish and Scottish industry and the results will input to the scientific advice in 2008.

FSS also secured funding for a number of joint Marine Institute-BIM SIP projects on herring and cod recruitment and on enhanced sampling in the Irish Sea.



DATA COLLECTION

In 2007, FSS secured €2.2 million in EU funding to enhance the collection of fisheries data. This funding was secured under the EU Data Collection Regulation (EU 1543/2000) which is now a key part of FSS work programmes. Data are the raw material used to assess the resource and build the scientific advice for resource managers. Research surveys are a major data source and in 2007, FSS staff carried out 15 surveys on research vessels and commercial vessels. FSS staff spent 1,100 scientific sea days on RV *Celtic Explorer* and RV *Celtic Voyager*. These missions were complimented with 195 scientific sea days on commercial fishing vessels. The survey programme included the annual Groundfish survey, which studied the fisheries resource on the shelf area around Ireland, underwater TV surveys on the prawn grounds in the Irish Sea, Celtic Sea and Aran grounds. Herring acoustic surveys were carried out in the Celtic Sea and off the Donegal coast, while the international blue whiting acoustic survey was carried out on spawning aggregations in the Atlantic with Norway, Russia and Holland. In collaboration with the UK, a new deep water survey of the continental slope off the west of Ireland commenced in 2007. International survey coordination is critical to efficient and effective data collection and ICES provided the forum to co-ordinate the surveys and analyse the results. These surveys provide valuable platforms to gather additional data on bird, whale and dolphin activity in the waters around Ireland.

RESOURCE ASSESSMENT AND SCIENTIFIC ADVISE

Scientific advice on the fisheries resources exploited by the Irish fleet was presented in the annual Stock Book which was published (hard copy, CD "and on www.marine.ie) in November. The book detailed the latest scientific advice on the fisheries resource exploited by the Irish fleet and also highlighted key current issues in fisheries science (e.g. reform of ICES advice, evolving discard policy). FSS scientists participated in over 23 International Working Groups at ICES, which focused on fish data collection, survey co-ordination, stock assessment, integrated resource advice and stakeholder dialogue. FSS staff also participated at the ICES Advisory Committee on Fishery Management meetings (ACFM) where the scientific advice for 2008 was formulated. FSS also participated at over 12 EU scientific meetings on issues related to gear technology, resource assessment and the Data Collection Regulation. A critical function for FSS is to provide scientific support to DAFF officials at various national and international meetings. This support was provided during the various EU-Norway negotiations and at the Council of Ministers meetings on fishing opportunities for 2008.

MODELLING AND SIMULATIONS

This is a growing and important aspect of FSS work and the team continued to develop the F-PRESS model (a stochastic computer simulation tool for developing fisheries management advice). This model shows the effects of alternative courses of action (i.e. various management decisions) on the fisheries. Working with the pelagic Regional Advisory Council (RAC), this model was used in the formulation of management plans for Celtic Sea Herring, Western Horse Mackerel and North Atlantic Mackerel. The group also developed a software application to estimate the precision level of sampling data (i.e. data quality) collected under the Data Collection Regulation.

RESEARCH

Research underpins FSS assessment and advisory work and a number of nationally and EU funded projects continued in 2007. The EFIMAS project examined the use of evaluation tools in fisheries management and FSS completed a major study on industry perceptions about fisheries science. FSS continued to work with its 15 partners in the EU funded (MARIFISH) project, aimed at greater integration, efficiencies and effectiveness in the funding of fisheries science. A report on the methods used to select and fund fisheries research was carried out by FSS as part of the project work programme. FSS and BIM completed work on the impact of closed areas off Greencastle on juvenile cod. A major project on the deep water gillnet fishery off the west of Ireland and a project on making ecosystem plans operational were funded by the EU. Seven projects under the Marine Institute NDP were funded and will enhance our understanding of the fisheries resource and the ecosystem they depend on.

THE PRIMARY ROLE OF THE FISHERIES SCIENCE SERVICES IS TO RESEARCH, ASSESS AND ADVISE ON SUSTAINABLE DEVELOPMENT OF LIVING MARINE RESOURCES IN THE WATERS AROUND IRELAND.

THE PRIMARY CUSTOMERS OF FSS ARE DEPARTMENT OF COMMUNICATIONS, MARINE AND NATURAL RESOURCES, EU, INDUSTRY AND THIRD LEVEL SECTORS. THE MAIN PRODUCT OF FSS IS SCIENTIFIC ADVICE ON STOCKS OF INTEREST TO IRELAND AND THIS IS ENCAPSULATED IN THE ANNUAL FSS 'STOCK BOOK' PRODUCED BY THE TEAM EACH DECEMBER.



AQUACULTURE AND CATCHMENT MANAGEMENT SERVICES

DIRECTOR'S STATEMENT

The Aquaculture and Catchment Management Services (ACMS) team was involved in a broad range of technical work in 2007 spanning migratory fish species, aquaculture and environmental research. In addition to its monitoring brief in the wild fisheries and aquaculture areas, ACMS is very active in national and international research programmes, working closely with colleagues from many European countries and actively seeking out EU and national funding to support its work. In the past ACMS has won substantial funding in a range of relevant areas and in 2007 the team was involved in two successful EU 7th Framework Applications – SALSEA Merge (a €5.4m project to research the causes of decreased marine survival of Atlantic salmon) and Eeliad (a €2.75m programme to investigate the marine biology of the European eel).

Nationally, ACMS has acquired additional resources under the Government's SSTI Programme to carry out detailed climate change research to predict localised catchment scale environmental

changes. A programme is also underway to assess environmental change in Lough Furnace, using a buoyed water quality sensor array. ACMS has also been funded under the European Regional Development Fund to install and field test a DIDSON fish counting system, which uses acoustic lenses to generate near photographic quality, fish images, even in dark, turbid waters where optical systems are ineffective.

The wild salmon conservation programme has boosted wild salmon runs in the Burrishoole system, with returns rising from a five year average of 540 to 983 in 2007, the highest adult salmon return for over 30 years. National returns for 2007 indicate that, in the absence of a mixed stock fishery, most Irish rivers benefited from additional spawning fish. Of the 150 salmon rivers in Ireland however, many remain below their conservation limit. There is little scientific evidence that overall marine survival has shown any significant increase in 2007.

ACMS also provides a broad range of advice to Department of Agriculture, Fisheries and Food and the Department of Communications, Marine and Natural Resources, to specialist advisory groups (e.g. National Salmon Commission, National Fisheries Management Executive), the Loughs Agency and to a range of international organisations (EU Commissions, ICES, NASCO, EIFAC) on scientific issues relating to stock management and conservation of eels and salmon. Advice relating to sea lice control, bay and near shore coastal zone management is also provided to Department of Agriculture, Fisheries and Food.

Ken Whelan

Dr. Ken Whelan
Director, Aquaculture and Catchment
Management Services



OTHER WORK

- ACMS acted as project coordinator to two NDP funded studies concerned with Genetic Stock Identification of salmon (GSI I and II) and is also progressing a review of the evolving SNP's technology with private sector partners in the US. The GSI programme is now complete and the report has recently been provided to the Sea Change Management Unit for assessment by the project steering committee. The results confirm the highly mixed stock nature of the marine salmon fisheries and support the precautionary decision to close these which was taken by Government in 2006.
- The NDP-funded Large Rivers PhD Project is underway and recent work in refining the use of DIDSON fish counting software has generated great interest both nationally and internationally. Results will be presented at the Atlantic Salmon Working Group of ICES in April 2008.
- A 5-day research mission was carried out in May on board the RV *Celtic Voyager* to test and deploy a new salmon post-smolt trawl developed by Norwegian fisheries scientists and built in Donegal. This was a joint venture between the Marine Institute and the Atlantic Salmon Trust (UK). The mission was very successful with 72 post-smolts taken for scientific analyses including genetic stock identification to region or possibly river of origin. The mission was an important preparatory step in undertaking Ireland's research tasks within the EU funded SALSEA Merge programme.
- On the aquaculture front work is progressing well on the development of a sea lice vaccine, funded under an Enterprise Ireland commercialisation grant. For the past five years a series of experiments have been carried out to assess the impact of sea lice on outward migrating salmon smolts and this work is now nearing completion.
- Under the Aquareg programme, lobster restocking trials are underway in Clew Bay using a novel low technology approach developed by partners in Galicia, Spain.
- The CZM Geodatabase tool, again developed with support from Aquareg, is currently under trial in both Single Bay Management and CLAMS programmes.



AQUAREG PROGRAMME

AquaReg, an InterReg IIIC programme, which initially received €4.2 million in EU funding, has been approved for a total of almost €5 million in funding and a time extension of one year. A further initiative is being undertaken to define collaboration strategies between projects during the AquaReg programme operation period, and to work on new proposals for future collaborations, either for new projects or by establishing links, networks or interregional collaboration agreements. Based on its success to date, the InterReg Secretariat has asked AquaReg to present as an example of "Best Practice" at a number of EU events.

OFF SHORE AQUACULTURE - OATP

The main objective of this EU 6th Framework Programme project is to investigate how the establishment of a technology platform might assist the aquaculture industry in establishing offshore aquaculture as a sustainable and viable alternative to near shore methods. The duration of the project is 14 months with a total budget of €200,000. The partners in the project are: Marine Institute, CETMAR (Spain) and SINTEF (Norway). An Advisory Group comprising 13 other interest groups from six EU countries and Norway has also been established. To date three regional seminars

have been held in Norway, Spain and Ireland and a major international workshop is planned for Dublin on the 24th of September 2008.

COILLTE RED AREAS PROJECT

The first phase of the Regeneration Options for Forestry on Western Peatlands (Red Area Project) commenced in June 2005. The Institute's role was to monitor the water quality of four selected forested streams before, during and after tree felling. The field components of the project were completed by June 2007, data analysis is complete and the final report is currently being prepared.

ILLUMINATE

Illuminate - an EPA-funded project looking at past, current and future interactions between anthropogenic pressures, chemical status and biological quality elements for lakes in two contrasting instrumented catchments in Ireland, commenced in June 2006 and progress is on schedule. The programme is supported by scientists from Trinity College Dublin, University of Limerick, Marine Institute and Kerry County Council. The new SSTI funded downscaling climate change programme, to be carried out by NUI Maynooth and TCD, will compliment the Illuminate

project and ensure the presence of strong hindcasting and forecasting capabilities in the emerging Burrishoole climate model.

INTERCAFE

The main objective of INTERCAFE is to improve European scientific knowledge of cormorant/fisheries interactions. A case study workshop was held in Hanko, Finland in January 2007 on management measures to deal with seasonal influxes due to population increase and possible changes in northerly distribution. Further workshops will focus on cormorant problems and extensive aquaculture systems, the issue of stakeholder perspectives in relation to complexity at geographical level and the management of the cormorant-fisheries conflict on a national scale. The project will be completed in 2008.



OCEAN SCIENCE SERVICES

DIRECTOR'S STATEMENT

In 2007 the Ocean Science Services Group (OSS) significantly expanded its wide range of activities at national and international level with the establishment of the SSTI funded climate change and marine exploration programmes and its significant contribution of technical advice and management input to the *Sea Change* implementation process.

As a result, OSS now provides comprehensive and integrated operational and research support services not only in support of Institute activities, but also to the Irish RTDI community and to international marine research activities where Irish researchers are significant partners. OSS is also very active in a wide range of European and international activities and fora.

Notable highlights included:

- Delivery of 305 days at sea by the RV *Celtic Explorer* on 19 surveys involving 3,425 scientist days at sea and 40 student days at sea.
- Delivery of 250.5 days at sea by the RV *Celtic Voyager* on 32 surveys involving 1,402 scientist days at sea and 152 student days at sea.
- The Joint Irish Bathymetric Survey Project (JIBS) commenced on 10 April 2007 and will be completed by 30 June 2008. This project is lead by the Maritime and Coastguard Agency (MCA) with the Marine Institute of Ireland as project partner funded through the INTERREG IIIA programme.
- The MESH project final conference was hosted by the Advanced Mapping Team, Marine Institute on 14-15 March 2007 at Dublin Castle and, in June 2007 Marine Institute, BGS, and JNCC conducted the MESH Submarine Canyon Survey approximately 320km southwest of Land's End.
- New equipment acquired includes a Sparker system, a new EM3002D shallow water multibeam system on the RV *Celtic Voyager* and new workstations and a 13Tb office server which will provide INFOMAR with the technology and data storage capacity needed to continue its seabed mapping programme.
- 3D data visualisation and fly through videos of seabed terrain is enabled using IVS Fledermaus software.
- A suite of backscatter, bathymetry and shaded relief charts are available as PDF images or plotted hard copy charts.
- Field testing of the new Data Acquisition System for the Irish National Weather Buoy Network and specification of a next generation weather buoy system (tender ongoing).
- Pre-operational data available for Irish waters from the three dimensional physical circulation model developed by Oceanographic Services.
- Increased use of online wave model forecast by the general public and other agencies.
- Significant expansion of the Irish National Tide Gauge Network including sites in the northwest and in Galway county.

RESEARCH VESSEL OPERATIONS

The mission of Research Vessel Operations is to co-ordinate and manage the operation of the Marine Institute's two research vessels, the RV *Celtic Voyager* and the RV *Celtic Explorer* and provide support services to the users of the Vessels, including instrumentation and engineering support services and extremely flexible operations. From January to December, a total of 305 scientific days were completed aboard the RV *Celtic Explorer*, with an additional 250.5 days aboard the RV *Celtic Voyager* (see Appendix 6).

A Ship time Grant-Aid program funded under the Government's Strategy for Science Technology and Innovation (SSTI) amounting up to €700,000 which helped the Marine Institute secure an additional €300,000 in funding leveraged by the successful applicants. Surveys funded under this initiative included a trial salmon smolt survey undertaken by UCC and the Marine Institute which will lead to a larger survey in 2008 under the SALSEA project. Several third level student training programs were also funded including a new program involving the National Maritime College (NMCI) and the Irish Naval Service (INS).

In addition, a detailed appraisal process was carried out to assess the business case for purchasing a national deepwater remotely operated vehicle (ROV). The procurement of the system was initiated through a European-wide tender and a 3,000 metre rated system is expected to be delivered in mid 2008. This vehicle will not only serve the R&D needs of the Irish Scientific community but will also provide Ireland with search and recovery capability which will allow the Marine Institute, the Coast Guard, Marine Casualty Investigation Board and the Irish Naval Service to respond to emergencies in the majority of water depths and tidal regimes within the Irish EEZ.

The Integrated Marine Exploration (IME) Programme, funded through SSTI grant-aid to further develop and augment national capacity for carrying out multidisciplinary marine science throughout the island of Ireland, came into effect in 2007. This programme also aims to support and develop Ireland's national and international deep sea research activity and forms a critical component of Ireland's input into the development of the Deep Sea Frontier Initiative and other deep sea RTDI, including deep sea cabled observatory projects such as ESONET NoE and the European Marine Seas Observatory (EMSO) preparatory phase.



- Delivery of the ESONIM (Cabled Seas Observatory) project in its entirety to the European Commission (September 2007).
- Procurement of oceanographic infrastructure crucial to *Sea Change* including ARGO floats, an autonomous glider, three inshore buoys and a High Performance Computer.

Michael Gillooly

Mr. Michael Gillooly
Director: Ocean Science Services



ADVANCED MAPPING SERVICES

Fifty two days of seabed survey under the INFOMAR programme were completed aboard the RV *Celtic Explorer* off the South West Coast as well as a ground-truthing vibrocoring survey in deeper water off the West Coast. The RV *Celtic Voyager* completed over 90 days of seabed mapping in the Irish Sea, South West Coast, South East Coast and Galway Bay. In addition, this included INFOMAR Surveys in the Biologically Sensitive Area north of the Dingle Peninsula, a Marine Derived Autogenic Carbonate site in the Kish Bank, a prospective wave buoy ocean energy site off county Mayo and the Aran Island Nephrops Ground, Bantry Bay, Dunmanus Bay and offshore Waterford and Wexford and the outer approaches to Waterford Harbour took place over the year on the RV *Celtic Explorer* and RV *Celtic Voyager*.

A new geodatabase has been developed with the Data Management Team to provide access to all INFOMAR survey coverage via ARC GIS. INFOMAR survey coverage is now freely available to staff and the general public using web-based data delivery services.

OCEANOGRAPHIC SERVICES

This section provides the comprehensive oceanographic services which underpin many of our national programmes. Such services include the management of the national equipment pool and management and operations of Irish Marine Data Buoy Network. Oceanographic Services also provide significant input to the provision of a data service to the marine community, and is also active in ocean modelling and coastal oceanography, including the development of the Irish National Tide Gauge Network.

MARINE CLIMATE CHANGE

Established toward the end of the year and funded under the Government's Strategy for Science, Technology and Innovation (SSTI) the Marine Climate Change Section has an ambitious two year multi-disciplinary programme building on historic data sets and current surveys across the Marine Institute and also relevant national and international activities.

Key deliverables will include:

- Production of an Ocean Climate Status Report for Ireland.
- A report on optimisation of fresh water and marine monitoring platforms (including new database on instrumentation holdings and calibration schedules) and optimisation of current and planned future survey activities to acquire data critical for climate change assessment.
- Ensuring that close liaison with EPA, Met Éireann, NUIM and other key Irish players in climate change research continues to ensure complementarity between programmes and the development of an integrated work programme with these and other partners which will build acquisition of data critical for climate change assessment into other sampling programmes.
- Publication in late 2008 of a National Ocean Climate Change Research Plan 2008 to 2013.



STRATEGIC PLANNING AND DEVELOPMENT SERVICES

DIRECTOR'S STATEMENT

2007 marked the first year of the roll out of *Sea Change: A Marine Knowledge, Research & Innovation Strategy for Ireland 2007-2013*. The Strategic Planning and Development Services (SPDS) team moved from planning into implementation mode; commencing with the announcement of the NDP by Government in January (with €141m committed to a marine research sub-programme), the launch of *Sea Change* in February, through to the launch and award of a number of dedicated marine research funding schemes which saw a commitment of €46.5m over a 1-7 year timeframe. Full details of the breakdown of funding and activities related to *Sea Change* are given in Appendix 1.

Other key activities in 2007 related to *Sea Change* included setting up of an implementation framework consisting of an High-Level Steering Group and a series of External Advisory Groups;

establishment of a dedicated *Sea Change* Management Unit within SPDS; and strengthening existing inter-agency collaboration and co-ordination to ensure the delivery of *Sea Change*.

SPDS continued to play an active role in the development of new and emerging marine sectors, e.g. marine functional foods, renewable ocean energy and marine biodiscovery programme, whilst steering a number of national strategic initiatives in the areas of knowledge and information management and marine tourism and leisure.

Through its International Co-operation function, SPDS played an instrumental role in shaping and influencing the European marine research agenda whilst providing advice and services to Irish researchers assisting them in accessing EU research funds.


Ms. Yvonne Shields
 Director, Strategic Planning
 and Development Services



INFLUENCING THE EUROPEAN MARINE RESEARCH AGENDA

Marine Institute staff played a critical supportive role in facilitating both national and European marine research community responses to the European Maritime Policy Green Paper Consultative Process. The proposed European strategy – *Towards a future Maritime Policy for Europe: A European Vision for the Oceans and Seas* – has marine science and technology as one of its central pillars. Marine Institute input included:

- providing technical and administrative support to the Inter-Departmental Steering Group (January 2006 – May 2007), facilitating public consultation (50 written and on-line submissions), hosting a dedicated web-site and organising a National Stakeholder Conference of 130 participants (March). The Marine Institute was also involved in preparing the Irish government response which was published in May 2007.
- actively participating in the debate at European level with key meetings being chaired by the Marine Institute's CEO including those in Brussels (January) and Aberdeen (June) and during special events organised by the German EU Presidency (Bremen – May) and the Portuguese EU Presidency (Lisbon – July and October). Amongst the strategic outputs was the Aberdeen Declaration – A New Deal for Marine and Maritime Science – which had a significant influence on the EU Maritime Strategy Blue Book and Action Plan (October 2007).



INFORMATION SERVICES AND DEVELOPMENT

The scientific and business needs of the Institute were supported by Information Services & Development (IS&D) through a range of projects which included:

- Sealice monitoring programme management database
- Seawater temperature data delivery via the Institute's web site
- Development of a virtual private network for staff in ports and other offices
- An integrated data page for the web site
- The development of a standard map viewer available at www.maps.marine.ie

IS&D also led the Institute's participation in a number of projects promoting development of marine data management. These included the Irish Spatial Data Exchange project led by the Marine Institute in partnership with other state agencies, and SeaDataNet - an EU project developing common standards for marine data exchange.

MARINE TECHNOLOGY

Galway Bay Wave Energy Test Site - During 2007, the quarter-scale ocean energy test site off Spiddal Co. Galway became the first ever test site to have two prototype devices (Irish owned) successfully producing electricity from the ocean.

Ocean Energy Research - In 2007, the Marine Institute continued to fund the Blue Power initiative strengthening the Ocean Energy research team in the Hydraulics and Maritime Research Centre in UCC.

Ocean Energy Strategy - Preparations for the implementation of phase two of the National Ocean Energy Strategy are ongoing and included an assessment of potential locations for the establishment of a grid connected, full scale ocean energy test site.

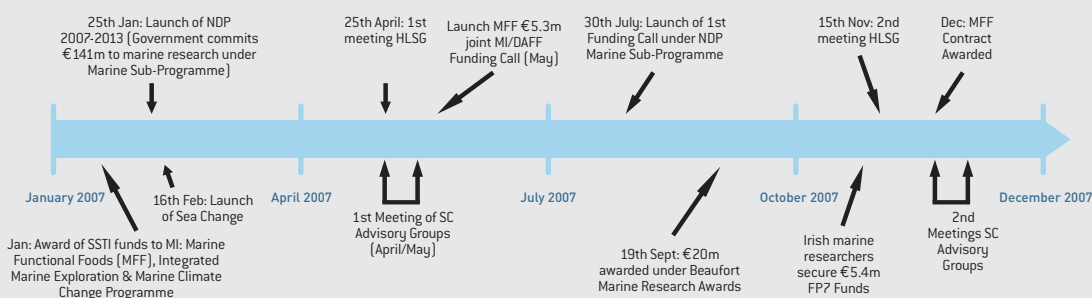
Ocean Energy Industry Forum - The Ocean Energy Industry Forum met on three occasions during 2007. This provided an informal networking opportunity for developers, investors, researchers and state agencies with an interest in ocean energy.

INTERNATIONAL CO-OPERATION

The newly invigorated EU Desk actively promoted Irish participation in the 7th EU Framework and INTERREG IV Programmes which came on line in 2007. Initial Irish successes include participation in 11 projects, winning grant aid in excess of €5 million under the EU FP7 Programme (See Appendix 2). As an input to wider EU co-operation, the Marine Institute is involved with international partners (MarinERA and EurOCEAN consortia) in establishing on-line databases of nationally funded (917 projects) and EU funded (543 projects) marine research projects. The on-line database is accessible at <http://marinedb.marinera.net>

Influencing international (European) Marine Science and Technology policy remains a key role of the Institute's International Co-operation Team. Significant achievements were made in influencing the European Marine S&T Agenda through the Maritime Green Paper and Aberdeen Declaration Processes.

FIG 1: KEY MILESTONES IN THE IMPLEMENTATION OF SEA CHANGE DURING 2007



ADVANCED TECHNOLOGY RESEARCH PROGRAMME

The SmartCoast project—a unique consortium of industry, academic research and stakeholders which was jointly funded via the 2000-2006 NDP by the Marine Institute and the Environmental Protection Agency (EPA) showed some interesting results in 2007. Novel sensor technologies have been developed for dissolved oxygen and nutrients; fundamental research to prevent biofouling is on-going; and a Plug and Play sensor interface has been developed.

The second annual workshop of the Water Sensor Programme was held at the Marine Institute Headquarters in March 2007, to disseminate initial results from three projects co-funded by the Marine Institute and the EPA (Cytometry, Oxygen Sensing and SmartCoast). The workshop provided an opportunity to identify planned future activities for the projects and the programme and to begin to focus on the industrial and commercialisation objectives of the programme.

SmartBay is a flagship project that will provide a national research, test and demonstration platform for emerging marine and environmental technologies. During 2007, the preparation and planning for SmartBay was on-going and Galway Bay was selected as the most suitable location. Discussions are underway with the research community, the EPA, Enterprise Ireland and the IDA to advance the project.

The Marine Biodiscovery Programme (MBP) was initiated in 2007. The programme is co-ordinated by the Marine Institute and involves research teams in NUIG, UCD, UCC, TCD, DCU and the USA National Cancer Institute. The objective is to build capabilities leading to the discovery of novel marine derived substances which will lead to the development of new bio-products, drugs and other materials.



GENERAL ADMINISTRATION

LIAISON

The programme of the Marine Institute covers a wide range of activities that require close liaison and co-operation with many individuals and organisations. These include the Department of Agriculture, Fisheries and Food, the Department of Finance and other government departments and state agencies, private enterprise and the higher education sector. The Institute acknowledges the continued support and co-operation of all concerned.

HEALTH AND SAFETY

In accordance with the Health and Safety and Welfare Act (1989), the Marine Institute has up-dated all Health and Safety Statements. The Institute continues to implement appropriate measures to protect the safety and health of all employees and visitors to its premises.

ETHICS AND PUBLIC OFFICE ACT

All persons holding a designated position within the Marine Institute provide a statement of interests to the Public Office Commission in accordance with sections 18 and 20 of the Ethics in Public Office Act, 1995.

EMPLOYMENT EQUALITY

The Marine Institute is committed to a policy of equal opportunity and adopts a proactive approach to equality. The Institute operates a number of schemes that provide staff with options in relation to meeting their career and personal needs, such as job sharing, study leave and educational programmes.

CODE OF PRACTICE (REPORTING)

The Marine Institute adheres to the statutory Codes of Practice for Governance of State Bodies as laid down by the Department of Finance. The Institute can confirm that Directors and employees have adopted and are trained on:

- Formal code of conduct on conflict of interest and customer charter
- Properly constituted Audit Committees
- Procurement procedures
- Sensitive Issues

APPENDICES

APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007

SEA CHANGE MANAGEMENT UNIT

In 2007, the Marine Institute formally established the *Sea Change* Management Unit (SCMU) within the SPDS Group. The Unit's role is to work with researchers, industry and agencies to drive forward the *Sea Change* agenda. The focus of the Unit's activities in 2007 included:

1. The establishment of the Strategy's Implementation Framework (a High-Level Steering Group and eight external Advisory Groups);
2. Strengthening existing inter-agency collaboration and co-ordination and building new partnerships and collaborations to ensure the delivery of *Sea Change*;
3. Scoping and developing new research programmes and projects; and
4. The launch and administration of a number of dedicated marine funding programmes:

The following provides a summary of the different funding schemes introduced, and managed by the SCMU in 2007. Details of the projects, grantees and grant-aid awarded are listed below (Table 1).

FUNDING SOURCES FOR SEA CHANGE 2007

Dedicated Marine Research Funding Schemes

- NDP 2007-2013 Marine Research Sub-Programme (€10.4m)
- Joint Marine Institute SSTI/DAFF Functional Foods Initiative (€5.2m)
- SSTI Award (€4.8m)
- ERDF Infrastructure Funding (€6m)
- DCMNR Beaufort Marine Research Awards (€20m)

MARINE RESEARCH SUB-PROGRAMME (NDP 2007-2013)

- The first call for research proposals under the Marine Research Sub-Programme was launched in July 2007, targeting defined projects under the Shipping, Fisheries, Aquaculture, Seaweed, Environment, and Knowledge & Information Management Research Programmes of *Sea Change*. In addition, proposals for R&D grant-aid were invited from marine sector companies for 'industry-led awards'. This resulted in a total grant-aid of €9.2m awarded for 18 projects (5 PhD Scholarships, 2 Post-Doc Fellowships, 1 Desk Study, 6 Project-Based Awards and 4 Industry-led Awards).
- Funding was channelled via the Irish Research Council for Science, Engineering and Technology (IRCSET) for the award of three PhD Scholarships in the field of Marine Biodiscovery (Total Grant-Aid €233,355).
- Forty-three networking awards, totalling €52,706, were funded.
- An assessment of research capabilities and development of a national research agenda in the area of Maritime Economics & Transport was commissioned (tender value €59,895).
- A number of tenders were awarded to assist the Marine Institute in initiating a large-scale 'Integrated Data Repositories project'.

STRATEGY FOR SCIENCE, TECHNOLOGY AND INNOVATION (SSTI)

In late 2006, the Marine Institute secured funding – €7.41m over two years – under the Government's Strategy for Science, Technology and Innovation (SSTI) for three research initiatives.

1. **Marine Functional Foods Research Initiative**
The Marine Functional Foods Research Initiative is a jointly funded initiative by the Marine Institute (€2.66m via Marine Institute SSTI funds) and Department of Agriculture,

Fisheries and Food (€2.66m via DAFF's FIRM Programme). Following an open call for proposals, a consortium consisting of six institutions, led by Teagasc was awarded €5.2m over a five-year period. The funding will create two new research teams and support 16 new researchers.

2. **Marine Climate Change Programme (€2.2m)**

This research programme aims to undertake a preliminary programme of research relating to ocean mediated climate change and will involve close liaison with EPA, Met Éireann and other key Irish players in climate change research, to ensure complementarity between programmes.

During 2007 the following activities took place:

- A team of nine climate scientists and technicians was established within the Marine Institute.
- A competitive call for research proposals resulted in the funding of two projects (Grant-aid €865,652) that form a fundamental part of the overall Marine Climate Change Programme.

3. **Integrated Marine Exploration (€2.55m)**

The Integrated Marine Exploration Programme aims to further develop national capacity in marine exploration by developing a pool of trained personnel who can utilise national assets and increase the quantum and nature of information gathered on marine surveys. The programme also acts as a mechanism to provide co-ordination of Irish Deep-Sea Research, nationally and internationally.

APPENDICES

APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007

During 2007 the following activities took place:

- A multidisciplinary field-team (scientists and technicians) was established within the Marine Institute.
- Grant-aid towards ship-time onboard the national research vessels for integrated research surveys and dedicated training for undergraduate and postgraduate students was provided for Irish third-level institutes and R&D organisations. Funding to a total value of €729,000 was provided for 50 survey days and 16 training days at sea; equating to 660 scientist/student days at sea.
- A roadmap for the development of accredited training modules for undergraduate and postgraduate students and technicians within higher education institutions was developed.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF)

The infrastructure measure of *Sea Change* was supported via ERDF co-funding and facilitated the acquisition of key items of research infrastructure in the BMW region to underpin the delivery of the new research programmes.

BEAUFORT MARINE RESEARCH AWARDS

In addition to the above funding programmes directly administered by the Marine Institute in 2007, the Department of Communications, Marine and Natural Resources awarded €19.47 million in funding for marine research under the Beaufort Marine Research Awards. This research capacity building initiative provided funding to develop research teams in five thematic areas (Ecosystem Approach to Fisheries Management; Fish Population Genetics; Marine Biodiscovery; Marine Sensors & Communications; and Marine Socio-Economics). The ten awards will support 11 research teams in six institutions, funding 19 new researcher positions, 28 PhD Scholarships and 94 student placements over a seven-year period.

OTHER SOURCES

In addition to this €46.5m committed via dedicated marine research funding schemes, €19m was successfully secured by Irish researchers via other national and international funding sources, for programmes/projects spanning over a 1-7 year period. This total investment of €66m in marine research funding will result in the creation of new capacity and knowledge generation – with in excess of 81 new research positions and 76 PhD scholarships being created. Overall in 2007, 60 research groups across 23 research institutions and 21 industry performers have received funding to carry out marine-related research and innovation projects/initiatives.

APPENDICES

APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007

TABLE 1. PROJECTS GRANT-AIDED UNDER SEA CHANGE

NDP MARINE RESEARCH SUB-PROGRAMME 2007 - 2013 - FUNDED PROJECTS 2007						
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	GRANTEE/ LEAD	TOTAL GRANT-AID
Industry	Fisheries Resources	Post Doctoral Fellowship	PD0C/FS/07/002	Develop and Test Through Simulation a Suite of Measures that will Contribute to Rebuilding Depleted Fish Stocks in Waters around Ireland	UCC	€627,570
Industry	Fisheries Resources	Post Doctoral Fellowship	PD0C/FS/07/003	"Joined-up Thinking from Joined-up Data": Fisheries Data Integration and Analysis, Facilitating the Ecosystems Approach to Fisheries Management	UCC	€612,602
Industry	Fisheries Resources	PhD Scholarship	PhD/FS/07/004	The Application of Signal Detection Methods to the Fisheries Management System	UCC	€115,000
Industry	Fisheries Resources	PhD Scholarship	PhD/FS/07/005	Modelling the Ecology, Population Dynamics, Assessment and Management of Nephrops (<i>Nephrops norvegicus</i>) in the Waters around Great Britain and Ireland	UCC	€105,000
Industry	Fisheries Resources	PhD Scholarship	PhD/FS/07/006	The Impact of Climate Change on the Distribution, Biology and Productivity of Fish Stocks in Waters around Ireland	NUIG	€110,000
Industry	Fisheries Resources	PhD Scholarship	PhD/FS/07/007	Long-Term Dynamics of Herring Populations around Ireland	GMIT	€114,840
Industry	Fisheries Resources	PhD Scholarship	PhD/FS/07/009	The Life History, Ecology and Dynamics of the Black Scabbard (<i>Aphanopus carbo</i>) in the Deep Water Ecosystem of the North East Atlantic	ZEPS, UCC	€115,000
Industry	Seaweed	Project-Based Award	PBA/SW/07/001	Development and Demonstration of Viable Hatchery and On-growing Methodologies for Seaweed Species with Identified Commercial Potential	BIM	€749,197
Industry	Seaweed	Project-Based Award	PBA/SW/07/002	Development of a Methodology for the Quantitative Assessment of Ireland's Inshore Kelp Resource	QUB	€615,974
Industry	Aquaculture	Project-Based Award	PBA/AF/07/004	Cod Broodstock & Breeding Programme	NUIG	€4,099,992
Policy Support	Marine Environment	Project-Based Award	PBA/ME/07/001	Biological Effects and Chemical Measurements for the Assessment of Pollution in Irish Marine Waters	TCD	€641,762

APPENDICES

APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007

TABLE 1. PROJECTS GRANT-AIDED UNDER *SEA CHANGE*

NDP MARINE RESEARCH SUB-PROGRAMME 2007 - 2013 - FUNDED PROJECTS 2007						
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	GRANTEE/ LEAD	TOTAL GRANT-AID
Policy Support	Marine Environment	Project-Based Award	PBA/ME/07/005	Marine Mammals and Megafauna in Irish Waters - Behaviour, Distribution and Habitat Use	GMIT	€441,340
Policy Support	Marine Environment	Desk Study	DK/ME/07/006	Compilation of Habitat-Based Catchment Information and Historical Eel Data in Support of Eel Management Plans (EEL-PLAN)	Compass Informatics Ltd.	€149,677
Policy Support	Knowledge & Information Management	Project-Based Award	PBA/KI/07/001	Data Management for Marine Geological and Geophysical Data sets (including integration with the Marine Data Repository)	UCC	€339,905
Policy Support	Knowledge & Information Management	Industry-Led Award	ILA/07/003	Information Management & Archive Solutions	Central Solutions Ltd.	€82,250
Policy Support	Knowledge & Information Management	Tender	Various	Integrated Data Repositories	Various	€1,266,004
Discovery	Marine Functional Foods	Industry-Led Award	ILA/07/004	Investigation of the Flavouring and Taste Components in Irish Seaweeds	Cybercolloids, Ltd.	€99,645
Discovery	Renewable Ocean Energy	Industry-Led Award	ILA/07/005	Development of an Efficient Design Technique for the Optimisation of Mooring Systems for Wave Energy Arrays	Marine Computation Services Ltd.	€95,928
Discovery	Marine Technology	Industry-Led Award	ILA/07/008	Acoustic Based Cetacean Detection	Biospheric Engineering Ltd.	€64,110
						€10,445,796

TABLE 1. PROJECTS GRANT-AIDED UNDER *SEA CHANGE*

NDP MARINE RESEARCH SUB-PROGRAMME 2007 - 2013 - FUNDED PROJECTS 2007					
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT TITLE	GRANTEE	TOTAL GRANT-AID
Discovery	Marine Biodiscovery/ Biotechnology	PhD Scholarship	Exploiting Marine Biodiversity to Develop Drugs for Normalising Neural Communication in Disease: Therapeutics Targeting Neuronal Channels	DCU	€90,000
Discovery	Marine Biodiscovery/ Biotechnology	PhD Scholarship	Characterisation of Anti-inflammatory Potential of Marine Extracts	DCU	€72,000
Discovery	Marine Biodiscovery/ Biotechnology	PhD Scholarship	Isolation and Synthesis of Bioactive Natural Products from Marine Sources	UCD	€71,355
					€233,355

APPENDICES

APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007

ERDF INFRASTRUCTURE PROGRAMME						
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	SUPPLIER	TOTAL GRANT-AID
Infrastructure Supporting	Various	Infrastructure Acquisition (Tender awards)	Various	Directional WaveBuoy Underwater TV Argo Floats Acoustic Monitoring System Integrated Inshore Network Tidal Gauge Network Shipboard CTD Systems Remotely Operated Vehicle	Various	€4,413,861
STRATEGY FOR SCIENCE, TECHNOLOGY & INNOVATION 2006 - 2013 (SSTI) - MARINE CLIMATE CHANGE PROGRAMME						
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	GRANTEE/ LEAD	TOTAL GRANT-AID
Discovery	Rapid Climate Change	Capacity-Building		Marine Climate Change Research Programme	Marine Institute	€1,334,346
Discovery	Rapid Climate Change	Project-Based Awards	SS/ CC/07/001(01)	Impacts of Increased Atmospheric CO2 on Ocean Chemistry and Ecosystems	Physics Dept., NUIG	€604,439
Discovery	Rapid Climate Change	Project-Based Awards	SS/ CC/07/002(01)	Climate and Catchment Environment	ICARUS, NUI Maynooth	€261,215
						€2,200,000
STRATEGY FOR SCIENCE, TECHNOLOGY & INNOVATION 2006 - 2013 (SSTI) - MARINE FUNCTIONAL FOODS						
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	GRANTEE/ LEAD	TOTAL GRANT-AID
Discovery	Marine Functional Foods	Capacity-Building	MFFRI/07/001(01)	Marine Functional Foods Research Initiative	Ashtown Food Research Centre, Teagasc	€2,600,000

N.B. This project is jointly funded by DAFF under the FIRM Programme. Total Grant-Aid is €5.2m.

APPENDICES

APPENDIX 1 // SEA CHANGE ACTIVITIES IN 2007

TABLE 1. PROJECTS GRANT-AIDED UNDER *SEA CHANGE*

STRATEGY FOR SCIENCE, TECHNOLOGY & INNOVATION 2006 - 2013 (SSTI) - INTEGRATED MARINE EXPLORATION PROGRAMME						
SEA CHANGE RESEARCH MEASURE	SEA CHANGE RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	GRANTEE/ LEAD	TOTAL GRANT-AID
Infrastructure Supporting	Various	Capacity Building		Integrated Marine Exploration Programme	Marine Institute	€1,110,000
Infrastructure Supporting	Research Vessel Ship - Time	Integrated Research Survey	RV-ST-07-01	Standard Oceanographic Section Cruise: Irish Coastal Waters	Marine Institute	€60,000
Infrastructure Supporting	Research Vessel Ship - Time	Integrated Research Survey	RV-ST-07-02	Harmful Algal Blooms in Thin Layers	NUIG	€120,000
Infrastructure Supporting	Research Vessel Ship - Time	Integrated Research Survey	RV-ST-07-03	Salmon Smolt Survey	UCC	€60,000
Infrastructure Supporting	Research Vessel Ship - Time	Integrated Research Survey	RV-ST-07-04	Irish Deepwater Ecosystem Survey 2007	Marine Institute	€135,000
Infrastructure Supporting	Research Vessel Ship - Time	Integrated Research Survey	RV-ST-07-05	Ground-truthing Seismic Images of Ocean Structure in Rockall Trough, Part I: Baseline Survey of Biological Productivity and Water Motion along WESTLINE	TCD	€120,000
Infrastructure Supporting	Research Vessel Ship - Time	Dedicated Training Programme	RV-ST-07-07	NMCI - Trainee Deck Officers & Trainee Engineering Officers	NMCI	€60,000
Infrastructure Supporting	Research Vessel Ship - Time	Dedicated Training Programme	RV-ST-07-08	Multidisciplinary Offshore Training for Marine Scientists (UCC-MOTS)	UCC	€15,000
Infrastructure Supporting	Research Vessel Ship - Time	Dedicated Training Programme	RV-ST-07-10	Marine Environment - Undergraduate and Graduate Programme	TCD	€12,000
Infrastructure Supporting	Research Vessel Ship - Time	Dedicated Training Programme	RV-ST-07-11	Multi-disciplinary Training during the PAP Mooring Service Visit	NUIG	€105,000
Infrastructure Supporting	Research Vessel Ship - Time	Dedicated Training Programme	RV-ST-07-12	Undergraduate Training in Fisheries and Oceanographic Sampling Techniques at Sea	GMIT	€12,000
Infrastructure Supporting	Research Vessel Ship - Time	Bright Sparks Award		Benthic and Demersal Assemblages on Sandbanks in the Western Irish Sea and Potential Impacts of Offshore Wind Farms	UCD	€30,000
Infrastructure Supporting	Research Vessel Ship - Time	Integrated Surveys/ Dedicated Training		2008 Ship-Time Funding Programme		€711,000
						€2,550,000

APPENDICES

APPENDIX 1 // *SEA CHANGE* ACTIVITIES IN 2007

TABLE 1. PROJECTS GRANT-AIDED UNDER *SEA CHANGE*

BEAUFORT MARINE RESEARCH AWARDS						
<i>SEA CHANGE</i> RESEARCH MEASURE	<i>SEA CHANGE</i> RESEARCH PROGRAMME	PROJECT TYPE	PROJECT REFERENCE	PROJECT TITLE	GRANTEE/ LEAD	TOTAL GRANT-AID
Industry	Fisheries Resources	Beaufort Award	BEAU/EAFM/01	Ecosystems Approach to Fisheries Management	FSS, Marine Institute	€1,064,000
Industry	Fisheries Resources	Beaufort Award	BEAU/EAFM/03	Ecosystems Approach to Fisheries Management	School of Biological Sciences, QUB	€1,002,000
Industry	Fisheries Resources	Beaufort Award	BEAU/EAFM/06	Ecosystems Approach to Fisheries Management	ZEPS, UCC	€1,860,000
Discovery	Marine Biodiscovery/ Biotechnology	Beaufort Award	BEAU/BIOD/01	Marine Biodiscovery	Research Institute & Microbiology Dept., UCC	€2,059,000
Discovery	Marine Biodiscovery/ Biotechnology	Beaufort Award	BEAU/BIOD/03	Marine Biodiscovery	School of Biological Sciences, QUB	€2,068,000
Discovery	Marine Biodiscovery/ Biotechnology	Beaufort Award	BEAU/BIOD/04	Marine Biodiscovery	MRI, NUI, Galway	€3,123,000
Discovery	Marine Technology	Beaufort Award	BEAU/SENS/10	Sensors and Communications Systems for the Marine Environment	National Centre for Sensor Research, DCU	€2,488,000
Industry	Fisheries Resources	Beaufort Award	BEAU/GENE/01	Fish Population Genetics	School of Biological Sciences, QUB	€1,002,000
Industry	Fisheries Resources	Beaufort Award	BEAU/GENE/01	Fish Population Genetics	ZEPS, UCC	€2,710,000
Policy Support	Policy, Socio-Economic and Legal	Beaufort Award	BEAU/ECON/04	Economic and Social Research Related to Development Dynamics of the Marine Sector in Ireland	CERTS, NUI, Galway	€2,099,000
						€19,475,000

APPENDICES

APPENDIX 2 // IRISH PARTICIPATION IN EU RTD PROJECTS:

European Union Framework (FP) and Regional Development (INTERREG) Programmes play a major role in facilitating and supporting Irish participation in competitive pan-European co-operative marine research and development projects and initiatives.

In 2007, the new 7th Framework (2007- 2013) and INTERREG-IV (2007 – 2013) Programmes were officially launched and the first call for competitive proposals issued. Projects with Irish participation approved for funding, but still subject to final contract negotiation, are listed below. Potential grant-aid to Irish partners in the 10 EU FP7 projects is circa €4.9 million.

Although too early to report on INTERREG successes, the EU Desk is tracking several INTERREG proposals with Irish participation. One Irish-led project (IMCORE) has already received conditional approval under the INTERREG IVB North West Europe Programme with circa €0.8m ERDF funding for Irish partners.

Details of EU Research Funding opportunities are described on the Marine Institute Internal Funding Opportunities web-page: <http://www.marine.ie/home/funding/InternationalFunding>

A useful on-line directory of EU funded marine research projects can be found at the European Centre for Information on Marine Science and Technology EuroOCEAN_Map website (<http://euroceanmrfp.addition.pt>).

The Marine Institute is a member organisation of EurOcean (www.eurocean.org).

EU FP7 PROJECTS

SALSEA-Merge: Advancing understanding of Atlantic Salmon at Sea: Merging genetics and ecology to resolve stock-specific migration and distribution patterns

Marine Institute/University College Cork

EELIAD: European eels in the Atlantic: Assessment of their Decline

Marine Institute/Central Fisheries Board

CORALFISH: Assessment of the interactions between corals, fish and fisheries in order to develop monitoring and predictive modelling tools for ecosystem based management in the deep waters of Europe and beyond

National University of Ireland – Galway, University College Cork, O'Malley Fisheries Ltd

MIDTAL Microarrays for the detection of toxic algae
National University of Ireland- Galway

MEFEPO: Making European Fisheries Ecosystem Operational
Marine Institute

CORES: Components for Ocean Renewable Energy Systems
University College Cork, University of Limerick, MCS Ltd, OE Ltd

EquiMar: Pre-normative Research for Ocean Energy
University College Cork

PROPS: Promotional platform for short sea shipping and intermodality
Nautical Enterprise Centre, Irish Exporters' Association.

SKEMA: Sustainable Knowledge Platform for the European Maritime and Logistics Industry

Nautical Enterprise Centre, Dublin Port, Irish Exporters Association

AZIPILOT: Development and pre-operational validation of upgraded GMES Marine Core Services and Capabilities

Transas Group

INTERREG-IV PROJECTS

IMCORE: Innovative Management for Europe's Changing Coastal Resource (Interreg IVB North West Europe)

University College Cork, Donegal County Council, National Maritime Council of Ireland

INTERREG-III PROJECTS (NOT LISTED IN 2006 ANNUAL REPORT)

JIBS: Joint Irish Bathymetric Survey (Interreg IIIA)

Led by the Maritime and Coastguard Agency (MCA) UK, with the UK Department of the Environment (Northern Irish partner) and the Marine Institute

APPENDICES

APPENDIX 3 // MARINE INSTITUTE PUBLICATIONS

SPECIAL REPORTS

The Stock Book. Annual Review of Fish Stocks in 2007 with Management Advice for 2008

Marine Institute [2007] ISBN: 1-902895-34-7

Status of Irish Aquaculture Report 2006

A compilation report of information on Irish Aquaculture [with a review of key programs during the years 2000 to 2006]

Prepared by Marine Institute, Bord Iascaigh Mhara and Taighde Mara Teo [2007]

2006 Weather Buoy Network Annual Report

Fennell, S. [2007]

Oceans of Opportunity II: Exploring Ireland's International Marine Research Partnerships. A Review of Irish Participation in EU FP6 Marine Research Projects 2002-2006

Cronin, Y., McDonough, N., and O'Sullivan, G. [2007], Marine Institute [April 2007]. 74pp

The Irish Maritime Transport Economist

Irish Maritime Development Office, Vol.4, April 2007, ISSN 1649-5225

Shipping Review – Ireland – Netherlands

Irish Maritime Development Office, August 2005

Shipping Review – Ireland – Belgium.

Irish Maritime Development Office, October 2006

Shipping Review – Ireland – Poland

Irish Maritime Development Office, November, 2006

Shipping Review – Ireland – France

Irish Maritime Development Office, December 2006

Shipping Review – Ireland – Spain

Irish Maritime Development Office, December 2006

Shipping Review – Ireland – Portugal

Irish Maritime Development Office, December 2006

Shipping Review – Ireland – Baltic States

Irish Maritime Development Office, December 2006

Shipping Review – Ireland – Italy

Irish Maritime Development Office, January 2007

INTERNATIONAL CO-OPERATION PUBLICATIONS

Restoration of the European eel population: pilot studies for a scientific framework in support of sustainable management

Dekker, W., Pawson, M., Walker, A., Rosell, R., Evans, D., Briand, C., Castelnaud, G., Lambert, P., Beaulaton, L., Åström, M., Wickström, H., Poole, R., McCarthy, T.K., Blaszkowski, M., de Leo, G. and Bevacqua, D. [2006]

Report of FP6-project FP6-022488, EU SLIME. 19 pp. + CD

Proceedings of the EurOCEAN 2004 Conference on Marine Science and Ocean Technology [2007]

Cieslikiewicz, W., Connolly, N., Ollier, G., O'Sullivan, G. [Editors] [2007]. 420 pp. Published by The European Communities. ISBN 92-894-7727-X

Report of the Working Group on Integrated Coastal Zone Management

Naughton, O. ICES WG ICZM 17-20 April 2007, CM 2007/MHC:09.69 pp

IRISH FISHERIES BULLETIN PUBLICATIONS

ISSN: 1649-5055

No. 26 2007

Gutted to Round-weight Conversion Factors for Anglerfish [*Lophius piscatorius* and *Lophius budegassa*]

Gerritsen, H., Lordan

No. 27 2007

Evaluation of the Benefits to Sustainable Management of Seasonal Closure of the Greencastle Codling Fishery

O'Cuaig, M. and Officer, R

No. 28 2007

National Survey of Sea Lice [*Lepeophtheirus salmonis* Krøyer and *Caligus elongates* Nordmann] on Fish Farms in Ireland – 2006

O'Donohoe, P., Kane, F., Kennedy, S., Nixon, P., Power, A., Naughton, O., Jackson, D

No. 29 2007

Activity Patterns of Some Inshore Fishing Vessels in 2006-2007

Fahy, E., Fee, D., O'Connor, S., and Smith

No. 30 2007

Validation of Standard Weights and Raising Coefficients for Discard Estimation: Report of a Survey Aboard MFV Roisin Bairbre

Smith, T., Comerford, S., Officer, R

APPENDICES

APPENDIX 3 // MARINE INSTITUTE PUBLICATIONS

IRISH FISHERIES INVESTIGATIONS SERIES

ISSN: 0578 – 7467

No. 17

A Stochastic Simulation Tool for Developing Fisheries Management Advice and Evaluating Management Strategies

Codling, E. A., Kelly, C. (2007) F-PRESS

No. 18

An Acoustic Survey of Orange Roughy Aggregations to the West and North of the Porcupine Bank

O'Donnell, C., Macaulay, G., Doonan, I., Grehan, A., Roar Haride, N., Ullgren, J., Mackey, M., Sachetti, F., Sheppard, S

MARINE ENVIRONMENT & HEALTH SERIES

ISSN No: 1649-0053

No. 27

Proceedings of the 7th Irish Shellfish Safety Workshop

Marine Institute, Galway 30th November 2006. Organised by the Marine Institute, Food Safety Authority Ireland and Bord Iascaigh Mhara. O'Cinneide, M. (2007)

NO. 28

Isolation and Purification of AZAs from Naturally Contaminated Materials and Evaluation of the Toxicological Effects (ASTOX)

Hess, P., McCarron, P., Rehmann, N., Kilcoyne, J., McMahon, T., Ryan, G., Ryan, M.P., Twiner, M.J., Doucette, G.J., Satake, M., Ito, E., Yasumoto, T

No. 29 (2007)

Bonamia ostrea in the Native Oyster Ostrea edulis

A review. (2007)

Culloty, S. & Mulcahy, M

No. 30 (2007)

Infectious Pancreatic Necrosis Virus and its Impact on the Irish Salmon Aquaculture and Wild Fish Sectors

Ruane, N., Geoghegan, F., O'Cinneide, M

No. 31 (2007)

Management Recommendations for the Sustainable Exploitation of the Mussel Seed in the Irish Sea

Maguire, J.A., Knights, T., Burnell, G., Crowe, T., O'Beirn, F., McGrath, D., Ferns, M., McDonough, N., McQuaid, N., O'Connor, B., Doyle, R., Newell, C., Seed, R., Smaal, A., O'Carroll, T., Watson, L., Dennis, J., O'Cinneide, M

APPENDICES

APPENDIX 4 // PUBLICATIONS

SCIENTIFIC PAPERS

Lice infestation pressures on farmed Atlantic salmon smolts (*Salmo salar* Linnaeus) in the west of Ireland following a SLICE® (0.2% emamectin benzoate) treatment

Copley, L., O'Donohoe, P., Kennedy, S., Tierney, D., Naughton, O., Kane, F., Jackson, D. and McGrath, D. *Fish Veterinary Journal* Issue: 9 page(s) 10-21 (2007)

To review and provide recommendations on the application of state of the art Genetic Stock Identification methods, with particular emphasis on evaluating the precision for identifying the population of origin of individual Atlantic salmon

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APPENDICES

APPENDIX 4 // PUBLICATIONS

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APPENDICES

APPENDIX 4 // PUBLICATIONS

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APPENDICES

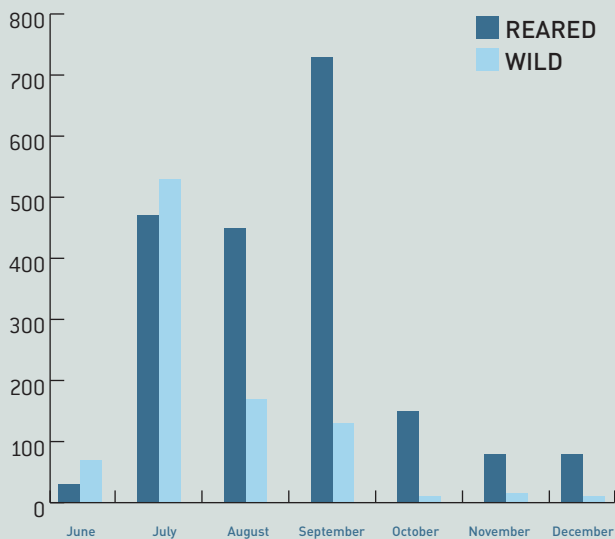
APPENDIX 5 // CENSUS DATA FROM THE BURRISHOOLE SYSTEM, 2007

WILD SALMON

The return of wild grilse to the end of 2007 consisted of 981 trap count and two retained rod caught fish. The total of 983 represents a total return to freshwater of 12.8%. The return rate the previous year was 5.3%.

The figure below shows the monthly trap recoveries for both wild and reared grilse. The peak of the wild run occurred during July and the reared peak occurred in September. Although there was sufficient water for upstream migration during the summer months both wild and reared fish were recorded in the upstream traps through to December.

MONTHLY WILD & REARED SALMON RETURNS TO UPSTREAM TRAPS 2007



REARED SALMON

To date 2300 reared fish have been recorded in the upstream traps during 2007. Of these over 300 were retained as broodstock the remainder were culled directly from the traps. At this stage the microtags have been retrieved from the majority of these fish including the broodstock and full breakdown of individual tag groups will be available soon.

SMOLT RELEASES

Adult fish returning during 2008 will be from a ranch release of 20,275 fish and a wild smolt run of 6,500 fish.

TROUT

Returns of trout in 2007 consisted of 12 sea trout, 61 finnock and 91 sea run brown trout.

Table 2: Upstream census data for the Burrishoole system, 2007 (DATA FOR 2007 ARE PROVISIONAL)

SPECIES	SALMON LEAP UPSTREAM 2007	MILL RACE UPSTREAM 2007	TOTALS UPSTREAM 2007	TOTALS UPSTREAM 2006	TOTALS UPSTREAM 2005
Wild Grilse	795	186	981	360	532
Wild Spring Salmon	10	2	12	32	9
Reared Grilse	1474	566	2040	685	952
Wild Sea Trout	6	6	12	6	11
Wild Finnock	37	24	61	24	4
Wild Brown Trout	71	20	91	49	86

Table 3: Downstream census data for the Burrishoole system, 2007

SPECIES	SALMON LEAP DOWNSTREAM 2007	MILL RACE DOWNSTREAM 2007	TOTALS DOWNSTREAM 2007	TOTALS DOWNSTREAM 2006	TOTALS DOWNSTREAM 2005
Wild Salmon Smolt	5634	1051	6685	7926	7261
Wild Sea Trout Smolt	577	16	593	628	781
Silver Eel	2334	215	2549	2158	2593

APPENDICES

APPENDIX 6 // RESEARCH VESSEL PROGRAMME 2007

	DAYS AT SEA	NO. OF SURVEYS	SCIENTIST DAYS	STUDENT DAYS
<i>RV Celtic Voyager</i>	250.5	32	1402	152
<i>RV Celtic Explorer</i>	305	19	3425	40
Total	555.5	51	4827	192

RV CELTIC VOYAGER

INSTITUTE	CHIEF SCIENTIST	DATES	LOCATION	DESCRIPTION
TCD	Jim Wilson	1/15/2007 - 1/15/2007	Dublin	Student Training
Marine Institute	Evin McGovern	1/16/2007 - 1/31/2007	Irish/Celtic Sea	Annual Nutrients Survey
GMIT	Dave McGrath	2/1/2007 - 2/2/2007	Galway Bay	Student Training
GMIT	Dave McGrath	2/3/2007 - 2/3/2007	Ros A'Mhíl/Galway	Schools Day
NUI, Galway	Rachel Cave	2/5/2007 - 2/8/2007	Galway/Ros A'Mhíl	Student Training
GSI	Xavier Garcia	2/9/2007 - 2/13/2007	Galway Bay	EM Survey
Marine Institute	Hans Gerritsen	2/16/2007 - 2/25/2007	Celtic Sea	Celtic Sea biological groundfish survey
Marine Institute	Kevin Sheehan	2/25/2007 - 2/27/2007	Irish Sea	Search and recovery attempt of ADCP
Marine Institute	Sheena Fennell	3/26/2007 - 3/28/2007	West	M1 Service
FRS Scotland	Ianin Gibb	4/4/2007 - 4/18/2007	North Sea	Cod Tagging cruise
Marine Institute	Sheena Fennell	4/23/2007 - 4/25/2007	St George's Channel	M4 Service
TCD	Jim Wilson	4/27/2007 - 4/27/2007	Irish Sea	Student training
Marine Institute	Sheena Fennell	4/30/2007 - 5/2/2007	Northwest	M4 Service
UCC/Marine Institute	Niall O'Maoileidigh	5/7/2007 - 5/16/2007	Northern cont. shelf	Salmon smolt Cruise
Marine Institute	Glenn Nolan	5/22/2007 - 5/31/2007	Continental shelf, West	Oceanography
Marine Institute	Colm Lordan	6/7/2007 - 6/14/2007	West	UWTV Aran Gr.
NPWS	Eamonn Kelly	6/15/2007 - 6/15/2007	Galway Bay	NPWS
Marine Institute	Sheena Fennell	6/18/2007 - 6/20/2007	South West	M3 buoy service
Marine Institute	Colm Lordan	6/22/2007 - 7/1/2007	Celtic Sea	UWTV Celtic Sea
Marine Institute	Infomar	7/3/2007 - 8/14/2007	South West	Seabed survey
NPWS	Eamon Kelly	8/16/2007 - 8/16/2007	Kinsale	Training
Marine Institute	Colm Lordan	8/18/2006 - 8/27/2007	Irish Sea	Irish Sea UWTV
RPIL	Kevin Kelliher	8/28/2007 - 8/28/2007	Irish Sea	Radioactivity measurement
UCD	Bright Sparks	8/29/2006 - 9/2/2007	Irish Sea	Bright Sparks
Marine Institute	Sheena Fennell	9/3/2007 - 9/5/2007	Celtic Sea	M5 service
Marine Institute	Fiona Fitzpatrick	9/7/2007 - 9/17/2007	South West	Infomar
Marine Institute	Fiona Fitzpatrick	9/19/2007 - 10/17/2007	South East	Infomar
TCD	Jim Wilson	10/19/2007 - 10/20/2007	Dublin Bay	Student Training
GMIT	Dave McGrath	10/28/2007 - 10/29/2007	Galway Bay	Student Training
Marine Institute	Fiona Fitzpatrick	11/1/2007 - 11/30/2007	North West	JIBS Survey
Marine Institute	Sheena Fennell	12/9/2007 - 12/9/2007	West	M1 Service

APPENDICES

APPENDIX 6 // RESEARCH VESSEL PROGRAMME 2007

RV *CELTIC EXPLORER*

INSTITUTE	CHIEF SCIENTIST	DATES	LOCATION	DESCRIPTION
Institute	Chief Scientist	Dates	Location	Description
Marine Institute	Ciaran O'Donnell	1/3/2007 - 1/23/2007	Northwest	North West Herring Acoustic Survey
Marine Institute	Glenn Nolan	1/24/2007 - 2/2/2007	Rockall Trough	Oceanographic survey
Marine Institute	Derek Sheridan	3/2/2007 - 3/5/2007	Celtic sea	Site geohazard Survey
Marine Institute	Brendan O Hea	3/6/2007 - 3/26/2007	Celtic Sea	Mackerel Eggs Survey
Marine Institute	Ciaran O'Donnell	3/27/2007 - 4/16/2007	Rockall Trough	Blue Whiting Acoustic Survey
Marine Institute	Fabio Sachetti/Kevin Sheehan	4/17/2004 - 6/3/2007	South West	Infomar Survey
JNCC	Heather Stewart	6/4/2007 - 6/18/2007	South West	Mesh Survey
NUIG/NOC	Martin White/Richard Lampitt	6/19/2007 - 6/25/2007	Continental Margin	PAP Deployment and NUIG Student Training
Marine Institute	Brendan O Hea	6/26/2007 - 7/16/2007	West	Mackerel Egg Survey Western
NUIG	Robin Raine	7/21/2007 - 7/30/2007	South West	Phytoplankton Distribution Assessment
TCD	Stephen Jones	7/31/2007 - 8/7/2007	Rockall Trough	Ground Truthing Seismic Images
GSI	Xavier Monteys	8/27/2007 - 9/1/2007	Porcupine Bank	Porcupine Bank Ground Truthing
Marine Institute/NUI, Galway	Graham Johnston	9/7/2007 - 9/20/2007	West	Deepwater survey
Marine Institute	Dave Stokes	9/21/2007 - 10/2/2007		Groundfish Survey
Wavebob	Eugene Cloonan	10/3/2007 - 10/4/2007	West	Wavebob deployment
Marine Institute	Ciaran O'Donnell	10/5/2007 - 10/25/2007	South West	South West Herring Acoustic
Marine Institute	Dave Stokes	10/26/2007 - 11/29/2007		Groundfish Survey
NMCI	Roddy Cooke	12/1/2007 - 12/4/2007	South	Student Training Days
UCC	Andy Wheeler	12/5/2007 - 12/6/2007	South	Student Training Days

APPENDICES

APPENDIX 6 // RESEARCH VESSEL PROGRAMME 2007

HIGHLIGHTS FOR THE YEAR INCLUDED:

- Successful delivery of schedule for RV *Celtic Explorer* from January to December with a total of 305 scientific days completed. The vessel entered drydock in A+P Falmouth in late December 2007 to begin its obligatory 5 year refit.
- Successful delivery of the RV *Celtic Voyager* programme with a total of 250.5 scientific days completed.
- P&O Maritime Services (Ireland) Ltd. completed their second year of provision of ship management, operation and maintenance services for the national research fleet during the period and the RV Operations team have worked closely with the shore and seagoing teams in P&O to complete a very demanding programme of activity for both vessels.
- Completion of a very intensive fisheries programme including the completion of two mackerel eggs surveys, three acoustic survey programmes, a deepwater fisheries survey as well as the annual groundfish survey
- A very intensive program of activity was completed under the INFOMAR program comprising 52 days survey on the RV *Celtic Explorer* off the South west as well as a groundtruthing vibrocoring survey in deeper waters. The RV *Celtic Voyager* completed over 90 days of seabed mapping in the Irish Sea, South West, South East and Galway Bay under the INFOMAR programme.
- Two successful commercial programmes were completed on the RV *Celtic Explorer* in order to secure an external contribution to the operational budget which comprised of a site geohazard survey as well as deployment of a wave energy prototype.
- External research charters were undertaken for Fisheries research service (Scotland) which comprised a cod tagging survey on the RV *Celtic Voyager* in the North sea as well as a two week habitat mapping survey for the Joint Nature Conservation Committee (JNCC) in the deepwater canyons in the south-western approaches on the RV *Celtic Explorer*.
- A barter agreement was signed with National Oceanographic Centre (NOC) which saw the RV *Celtic Explorer* undertake a deepwater mooring deployment at the Porcupine abyssal plain (PAP) site for NOC, this agreement will allow the Irish scientific community to access a wide range of world class research infrastructure which is available under the barter agreement.
- The annual 'Bright Sparks' competition for five days ship time on the RV *Celtic Voyager* was won by a group from UCD whose project aimed to investigate the effects of wind farms on the marine ecosystem.
- The Ship-time grant aid program which was funded under the SSTI integrated marine exploration program was introduced and saw Irish researchers receive funding for 27 days ship time on the RV *Celtic Explorer* and 20 days research on the RV *Celtic Voyager*.
- Notable surveys funded under the initiative included a trial salmon smolt survey undertaken by UCC and the Marine Institute which will lead to a larger survey in 2008 under the SALSEA project, several third level student training programs were funded including a new program involving the National Maritime College (NMCI) and the Irish Naval service.
- Trinity College Dublin completed a very successful eight day survey on the RV *Celtic Explorer* in the Rockall trough which aimed to link historic water column data from seismic surveys with oceanographic conditions.

APPENDICES

APPENDIX 7 // FOREIGN MARINE SCIENTIFIC RESEARCH (FMSR) ACTIVITIES IN IRISH WATERS IN 2007

SCIENTIST DAYS IRELAND	SCIENTIST DAYS FOREIGN
4647	7735

COUNTRY	VESSEL NAME	DAYS	NO. SCIENTISTS	SCIENTIST DAYS
Britain	Benaiah IV	59	2	118
Britain	Cefas Endeavour	14	18	252
The Netherlands	Tridens	19	6	114
Britain	FRV Scotia	12	12	144
Germany	Walther Herwig III	36?	12	432
Britain	RRS Discovery	5	15	75
Britain	FRV Scotia	13	12	156
The Netherlands	RV Pelagia	8	15	120
Britain	MFV Unity	10	5	50
Norway	MV Rottingoy	32	5	175
The Netherlands	Tridens	47	3	141
Belgium	BNS Belgica	18	15	270
Norway	Johan Hjort	27	7	189
The Netherlands	RV Pelagia	21	15	315
Britain	CEFAS Endeavour	5	18	90
Britain	MFV Unity	11	5	55
Britain	RRS Discovery	14	28	392
Britain	RRS James Cook	6	32	192
Britain	Mars Chaser	32	9	288
France	RR Rari	26	8	208
Britain	RRS James Cook	6	32	192
Britain	RRS Discovery	10	28	280
The Netherlands	RV Pelagia	5	15	75
Spain	RV Vizconde de Eza	27	13	351
Britain	RRS Discovery	23	28	644
Britain	RRS James Cook	6	32	192
Britain	RV Corystes	20	7	140
Germany	Maria S. Merian	3	23	69
The Netherlands	RV Pelagia	26	15	390
The Netherlands	RV Pelagia	8	15	120
Britain	RV Scotia	14	7	98
France	Thalassa	36	25	900
Britain	Cefas Endeavour	22	10	220
Britain	RV Scotia	22	12	288
TOTAL		607	504	7735

APPENDICES

APPENDIX 8 // CONFERENCES, EVENT AND WORKSHOP SPONSORSHIP IN 2007

HIGHLIGHTS FOR THE YEAR INCLUDED:

MONTH	EVENT	DATES
January	BT Young Scientist Exhibition	10th – 14th January
	FP7 SALSEA Project Meeting	24th-25th January
	Marine Functional Foods Seminar – Oranmore	26th January
	MESH Sub-Tidal Workshop	30th-31st January
March	ECOP marine service project meeting, Galway	1st – 2nd March
	Inshore Ireland Fisheries Exhibition, Galway	2nd – 4th March
	Stakeholders Workshop on the EU Green Paper	14th – 15th March
	MESH Conference – Dublin Castle	15th – 18th March
	Sponsorship Ministerial Trade Mission, Cruise Ireland, Seatrade Miami (IMDO)	17th March
	Marine Themed St. Patrick's Day Parade – Oranmore Village, Co. Galway	
April	Buckland Lecture at Royal Dublin Society	24th April
	Schools open day on the RV <i>Celtic Explorer</i> , Rosslare, Co. Wexford	27th April
May	Launch of The Irish Maritime Transport Economist Launch Volume 4 (IMDO)	1st May
June	World Oceans Day – Galway	8th June
	Hosted Irish Industry Pavilion, Norshipping, Oslo (IMDO)	12th – 15th June
	Promotion of Irish Ship Finance Sector at Marine Money Conference, New York (IMDO)	19th – 21st June
	Sponsorship, European Coastlink Conference, Dublin, 2007 (IMDO)	25th & 26th June
July	Teachers Training Workshop - Oranmore	2nd – 6th July
September	Information Day on the National Development Plan Marine Research Awards – Oranmore	10th September
	Hosted Irish Maritime Education & Training Stand at Higher Options Conference, RDS Dublin (IMDO)	19th – 21st September
	"Offshore Aquaculture – the Next Step" International Conference, Dublin	24th September
	Launch of "Status of Irish Aquaculture Report 2006" – Galway	
October	Government Sponsor of First Ship Finance Conference, Marine Money – Dublin	31st October
	Sponsorship of Ireland/India Trade Association Conference 2007 (IMDO)	
	Connemara Sea Week – Letterfrack, Co. Galway	
	Marine Money Conference – Dublin (IMDO)	
November	"Sunday Funday" at Galway Atlantaquaria – Launch of Science Week in Galway	11th November
	Mayo Science Festival	11th November
	Galway Science & Technology Fair ("Galway Explorers" and "Follow the Fleet")	25th November
	Schools open day on the RV <i>Celtic Explorer</i> , Galway.	30th November
December	Sponsorship Bank of Ireland Maritime Industry evening (IMDO)	5th December

APPENDICES

APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF

INTERNATIONAL BODIES

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEAS (ICES)		
Working Group on Environmental Interactions of Mariculture (WGEIM)	Francis O'Beirn	Chairman
Working Group (jointly hosted by Intergovernmental Oceanographic Commission) on Harmful Algae Bloom Dynamics (WGHABD)	Joe Silke	Chairman
Working Group on Marine Chemistry (MCWG)	Evin McGovern	Chairman
ICES Workshop on Use of Underwater TV Survey	Colm Lordan	Chairman
Management Committee on the Advisory process (MCAP)	Paul Connolly	Chairman
Joint EIFAC/ICES Working Group on Eel	Russell Poole	Chairman
ICES Working Group on Ocean Hydrography	Glenn Nolan	Chairman

The Marine Institute also provides expert staff as members of the following ICES committees and working groups:

- Advisory Committee for Fisheries Management (ACFM)
- Advisory Committee on Ecosystems (ACE)
- Advisory Committee on the Marine Environment (ACME)
- Mariculture Committee
- Resource Management Committee (RMC)
- Living Resources Committee (LRC)
- Marine Chemistry Working Group (MCWG)
- Marine Shellfish Culture Working Group
- Working Group on Marine Sediments
- North Atlantic Salmon Working Group (WGNAS)

- Study Group on By-catch of Salmon in Pelagic Fisheries (SGBYSAL)
- Various Irish/UK Expert & Working Groups on Water Framework Directive (WFD)
- ICES/EIFAC Working Group on Eels
- Working group on Oceanic Hydrography
- ICES Working Group on Integrated Coastal Zone (WGICZM)
- Workshop on Use of Underwater TV Survey (WKNEPHTV)
- Resource management Committee (RMC)
- Study Group on Management of Integrated Data
- Iberian-Biscay-Irish Regional Ocean Observing System Technical Task Team.
- Working Group on Application of Genetics to Fisheries Management and Mariculture

- Working Group on Southern Shelf Demersal Seas (WGSSDS)
- Working Group on Northern Shelf Demersal Seas (WGNSSDS)
- Working Group on Hake, Monk and Megrim Stocks (WGHMM)
- Study Group on Management Strategies (SGMAS)
- Methods Working Group (WGMG)
- Working Group on Harmful Algal Bloom Dynamics
- Working Group Marine Habitat Mapping
- Working Group on Implementing Legislation pursuant to Council Directive 2006/88/EC on Aquatic Animal Health

EUROGOOS		
Board of Directors	Glenn Nolan	Board Member

The Marine Institute also provides expert staff as members of:

- Steering group for the North West shelf Ocean Observing System (NOOS)
- Steering group for the Iberia Biscay Ireland regional OOS (IBI-ROOS).

EUROPEAN INLAND FISHERIES ADVISORY COMMISSION (EIFAC)		
	Russell Poole	National Correspondent
Biennial Official Session	Russell Poole	Head of Delegation

EIFAC is a Commission of FAO responsible for the provision of advice on inland waters and fisheries.

The Marine Institute also provides expert staff as part of the Irish Delegation to EIFAC

APPENDICES

APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF

EUROPEAN SCIENTIFIC AND WORKING GROUPS

The Marine Institute provides expert staff as members of the following groups:

EUROPEAN COMMITTEE FOR STANDARDISATION (CEN), TECHNICAL COMMITTEE 275, WORKING GROUP 5		
	Philipp Hess	Also representing National Standards Authority of Ireland
EUROPEAN COMMITTEE FOR STANDARDISATION (CEN); TECHNICAL COMMITTEE 275 (FOOD ANALYSIS, HORIZONTAL METHODS); WORKING GROUP 6 (MICROBIAL CONTAMINATION); TECHNICAL ADVISORY GROUP 4 – DETECTION OF VIRUSES IN FOOD		
	Sinéad Keaveney	Also representing National Standards Authority of Ireland
EUROPEAN FOOD SAFETY AUTHORITY (EFSA): CONTAM PANEL, MARINE BIOTOXIN WORKING GROUP		
	Philipp Hess	Drafting of 8 opinions 2006 - 2008
EU MARINE STRATEGY (EMMA) WORKING GROUP (EUROPEAN MARINE MONITORING AND ASSESSMENT)		
	Evin McGovern	Head of Delegation
AMPERA (ACCIDENTAL MARINE POLLUTION) EU CO-ORDINATION ACTION PROJECT		
	Evin McGovern	Executive Board Member
EU-MAURITANIA JOINT SCIENTIFIC COMMITTEE (JSC)		
	Ciaran Kelly	Member
EU FISH HEALTH COUNCIL WORKING GROUP		
	Fiona Geoghegan	National Representative
EUROPEAN RESEARCH VESSEL OPERATORS (ERVO)		
	John Breslin	Chairman
EU MARINERA PROJECT – CO-ORDINATION OF NATIONAL AND REGIONAL MARINE RESEARCH ACTIVITIES IN EUROPE (2004 - 2008)		
Technical Committee	Geoffrey O'Sullivan	Committee Member
INTERREG-III A (IRELAND/WALES) PROGRAMME		
Programme Committee	Geoffrey O'Sullivan	Delegate for the Marine & Coastal Environment (Priority 2/Measure 1)
MARINE BOARD - EUROPEAN SCIENCE FOUNDATION (OOSTENDE)		
Marine Board	Geoffrey O'Sullivan	Board Member
Working Group on Marine Science Communications	John Joyce	Chairman
EUROPEAN CENTRE FOR INFORMATION ON MARINE SCIENCE AND TECHNOLOGY (LISBON)		
	Geoffrey O'Sullivan	Board Member
EU FP7 ENVIRONMENT PROGRAMME COMMITTEE (BRUSSELS)		
	Geoffrey O'Sullivan	National Expert
THE MARINE INSTITUTE ALSO PROVIDES EXPERT MEMBERS OF STAFF TO SERVE ON THE FOLLOWING EU COMMITTEES AND WORKING GROUPS:		
<ul style="list-style-type: none"> Working Group on Remote Sensing Working Group on the Impact of Climate Change on European Seas and Oceans Working Group on European Ocean Fleets 	<ul style="list-style-type: none"> Technical Group On Implementing Rules for Alien Species in Aquaculture (for DG Fish) EurOcean 2007 Conference (Aberdeen) Organising Committee EU MarinERA Project (2004-2008) Technical Committee 	

APPENDICES

APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF

EUROPEAN SCIENTIFIC AND WORKING GROUPS

COMMUNITY REFERENCE LABORATORY NETWORK (CRL)/NRL		
Marine Biotoxins	Terry McMahon Philipp Hess	Representatives of the Marine Institute in its role as EU National Reference Laboratory on Marine Biotoxins
Bacteria and Viruses in Shellfish	Bill Dore Sinéad Keavney	Representatives of the Marine Institute in its role as EU National Reference Laboratory on monitoring Bacteria and Viruses in Shellfish
Diseases of fish and Shellfish	Fiona Geoghegan Deborah Cheslett	Representatives of the Marine Institute in its Role as National Reference Laboratory for Fish & Mollusc Diseases.
NORTH ATLANTIC SALMON CONSERVATION ORGANISATION (NASCO)		
NASCO	Ken Whelan	President
International Atlantic Salmon Research Board	Ken Whelan	Chairman
OSPAR COMMISSION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE NORTH-EAST ATLANTIC		
Assessment & Monitoring (ASMO) Working Group	Evin McGovern	Irish Head of Delegation
Management Group for QSR2010 (MAQ)	Evin McGovern	
Substances in the Marine Environment (SIME) Working Group	Evin McGovern	Irish Head of Delegation
Monitoring of Hazardous Substances (MON) Working Group	Brendan McHugh	Irish Head of Delegation
Environmental Impacts of Human Activities (EIHA) Committee	Eugene Nixon	Irish Head of Delegation
Working Group on Integrated Biological Effects and Chemical Monitoring (WKIMON)	Brendan McHugh	Head of Delegation
The Marine Institute also provides expert staff as members of the:		
<ul style="list-style-type: none"> Biodiversity Committee Offshore Industry Committee MAQ (Management Group for the Quality Status Report 2010) 		
Offshore Industry Committee	Margot Cronin	Delegate
London Convention on Dumping at Sea Scientific Group	Margot Cronin	National Representative/ Delegate
European Science Foundation - Marine Board. Working Group on Marine Pollution	Margot Cronin	National representative
EUROPEAN SCIENTIFIC AND WORKING GROUPS		
Conservatoire National du Saumon Sauvage	Ken Whelan	Co-Chairman
Marine Institute staff were invited experts contributing to various marine fisheries Regional Advisory Committees (RACs) initiatives and meetings in 2007		

APPENDICES

APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF

EUROPEAN SCIENTIFIC AND WORKING GROUPS

REGIONAL ADVISORY COMMITTEES (RACS)		
North Western Waters RAC	Symposium of the Cod Recovery Programmes	Paul Connolly Norman Graham Ciaran Kelly
North Western Waters RAC	Maximum Sustainable Yield Meeting	Colm Lordan Sarah Davie
Pelagic RAC	Draft Management Plan for Western Horse Mackerel	Andrew Campbell Ciaran Kelly Maurice Clarke
KEYNOTE INVITATIONS TO INTERNATIONAL CONFERENCES		
Seminar of Marine Sciences and Technologies in FP7	Brussels (Belgium) 16th January	Chair: Dr. Peter Heffernan
EU Maritime Green Paper – National Stakeholders Conference	Dublin 6th March	Chair: Dr. Peter Heffernan Keynote Speaker "Marine Energy" Eoin Sweeney
German EU Presidency Conference	Bremen (Germany) 4th May	Chair of Session 4 – "Research & Innovation": Dr. Peter Heffernan
EurOCEANS 2007 Conference	Aberdeen (Scotland) 22nd June	Chair: Dr. Peter Heffernan
Politiques Maritimes et Globalisation	Terceira (Azores) 9th – 10th July	Chair of Session 4: "Exploiting the Potential of Coasts and Oceans." Geoffrey O'Sullivan
EU Portuguese Presidency Conference – <i>Governance of an Integrated, Holistic Maritime Policy for Europe</i>	Lisbon (Portugal) 19th – 29th July	Keynote Speaker: Dr. Peter Heffernan
EU Portuguese Presidency Conference – <i>The role of Marine Science in Ocean Sustainability and Global Change</i>	Lisbon (Portugal) 8th October	Keynote Speaker: Dr. Peter Heffernan

APPENDICES

APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF

NATIONAL BODIES

DEPARTMENT OF COMMUNICATIONS, MARINE AND NATURAL RESOURCES/DEPARTMENT OF AGRICULTURE, FISHERIES & FOOD

Marine Licence Vetting Committee (MLVC)	Terry McMahon	Chairman
National Eel Working Group	Russell Poole	Member

FOOD SAFETY AUTHORITY OF IRELAND

The Marine Institute provides expert staff to serve on:

- Scientific Committee
- FAC Subcommittee
- Biotoxin Working Group
- Molluscan Shellfish Safety Committee
- Food Safety Promotion Board Research Network on Natural Toxins and Anti-Nutritional Compounds

DEPARTMENT OF COMMUNICATIONS, MARINE AND NATURAL RESOURCES

Marine Licence Vetting Committee	Terry McMahon	Chairman
	Francis O'Beirn	Member
	Margot Cronin	Member

The Marine Institute also provides expert members of staff to serve on:

- Aquaculture Licensing Advisory Committee
- Sea Food Liaison Group (SFLG)
- Technical Advisory Group to the Irish Quality Salmon Scheme
- Sea Lice Working Group
- Shellfish Waters Management Committee
- Cod Advisory Group
- ICZM Steering Committee
- AquaReg Steering Committee
- International Council for Offshore Aquaculture Development Steering Committee
- Working Group on the Management of Eel

NATIONAL SALMON COMMISSION

Standing Scientific Committee	Niall O'Maoileidigh	Chairman
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APPENDICES

APPENDIX 9 // NATIONAL AND INTERNATIONAL SCIENTIFIC WORKING GROUPS AND ADVISORY BODIES CHAIRED BY MARINE INSTITUTE STAFF

NATIONAL BODIES

SCIENTIFIC JOURNALS
Marine Institute staff also serve as reviewers on the following scientific journals:
<ul style="list-style-type: none">• Analytical and Bioanalytical Chemistry• Aquaculture - Proceedings of the 7th International Workshop on Smoltification, Tono, Japan, 2005.• Aquatic Living Resources• Canadian Journal of Fish Biology• Chemical Research in Toxicology• Conservation Biology• Ecology• Fisheries Research• Fisheries Management and Ecology• ICES Journal of Marine Science• Journal of Agricultural and Food Chemistry• Journal of the Association of Official Analytical Chemists International• Journal of Chromatography• Journal of Fish Biology• Journal of Mass Spectrometry• Journal of Theoretical Biology• Journal of Shellfish Research• Journal of Sea Research• Journal of Experimental Marine Biology and Ecology• Oecologia• Toxicon

GLOSSARY OF ABBREVIATIONS

AC	Alternating Current	DAS	Data Acquisition System
ACFM	Advisory Committee on Fisheries Management	DCMNR	Department of Communications Marine and Natural Resources
ACMS	Aquaculture and Catchment Management Services of the Marine Institute	DCU	Dublin City University
ALO	Aquaculture Liaison Officer	DG SANCO	European Commission Health and Consumer Protection Directorate
AQUAREG -	Promotion of interregional co-operation in aquaculture and fisheries	DIT	Dublin Institute of Technology
ARC	Aquaculture Research Committee	DSP	Diarrhetic Shellfish Poisoning
ARGO float	Temperature/salinity profiling floats	DTX-2	Dinophysistoxin -2
ASP	Amnesic shellfish poisoning	EAF	Ecosystem Approach to Fisheries Management
AZP	Azaspracid poisoning	EC	European Commission
AZIPLOT	An FP7 project on the Development and pre-operational validation of upgraded GMES Marine Core Services and Capabilities	EEC	European Economic Community
BGS	British Geological Survey	EELIAD	European Atlantic Eels and an assessment of their decline
BIM	Bord Iascaigh Mhara [the Irish Sea Fisheries Board]	EEZ	European Economic Zone
BIOTOX	Project on validation of alternative methods for marine biotoxins	EFIMAS	Operational Evaluation Tools for Fisheries Management Options
BMW	Border, Midlands & Western Region	EIFAC	European Inland Fisheries Advisory Commission
CEFAS	Centre for Environment, Fisheries and Aquaculture	EMSO	European Multidisciplinary Seafloor Observation
CEH	Centre for Ecology and Hydrology	EPA	Environmental Protection Agency
CETMAR	Centro Tecnológico del Mar, Vigo, Spain	EQUIMAR	FP7 project on Pre-normative Research for Ocean Energy
CEO	Chief Executive Officer	ERA	European Research Area
CFP	Common Fisheries Policy	ERDF	European Regional Development Fund
CMA	Connecticut Maritime Association	ESF	European Science Foundation
CMRC	Coastal & Marine Resources Centre, Cork	ESF-MB	European Science Foundation – Marine Board
CORALFISH	Interactions between Fisheries and the management of deep-sea corals	ESONIM	Seafloor observatory project managed by the Marine Institute
CORES	FP7 project on Components for Renewable Energy System	EU	European Union
CZM	Coastal Zone Management	EurOCEAN	A European Centre for Information on Marine Science and Technology
CTD	Conductivity, Temperature and Depth	FAS	Foras Aiseanna Saothair [Training and Employment Authority]
DAFF	Department of Agriculture, Fisheries and Food (Formerly DAF – Department of Agriculture and Forestry)	FATS	Fisheries Assessment Technicians
DARDNI	Department of Agriculture and Rural Development, Northern Ireland	FHU	Fish Health Unit of the Marine Institute
		FIRM	Food Industry Research Measure

GLOSSARY OF ABBREVIATIONS

FP6	Sixth Framework Programme	ISAV	Infectious salmon anaemia virus
FP7	7th EU Framework	ISEAS	Irish Seafarers Educational Assistance Scheme
FRS	Fisheries Research Service Scotland	ISPG	Irish Seafood Producers Group
FSAI	Food Safety Authority of Ireland	IT	INFORMATION TECHNOLOGY
FSS	Fisheries Science Services of the Marine Institute	IMDO	Irish Maritime Development Office
GIS	Geographic Information System	INTERREG	EU Inter-Regional Co-operation Programme
GDP	Gross Domestic Product	JIBS	Joint Irish Bathymetric Survey
GMIT	Galway Mayo Institute of Technology	JNCC	Joint Nature Conservation Committee
GSI	Geological Survey of Ireland	LC/MS	Liquid Chromatography – Mass Spectrometry
HABS	Harmful Algal Blooms Service	MARLAB	Fisheries Research Services Marine Laboratory
HMRC	Hydraulics and Maritime Research Centre	MEFS	Marine Environment and Food Safety Services of the Marine Institute
HR	Human Resources	MHC	Major Histocompatibility Complex
ICES	International Council for the Exploration of the Seas	MI	Marine Institute
ICT	Information Communications Technology	MOU	Memorandum of Understanding
IDA	Industrial Development Authority	MSR	Marine Scientific Research
IFA	Irish Farmers Association	MTDS	Marine Technical and Development Services
IFREMER	Institut français de recherché pour l'exploration de la mer (French Research Institute for the Exploration of the Sea)	NAB	National Accreditation Board
IFSHAC	Irish Fish and Shellfish Advisory Committee	NASCO	North Atlantic Salmon Conservation Organisation
IHO	International Health Organisation	NDP	National Development Programme
ILAB	Irish Accreditation of Laboratories	NEAFC	North East Atlantic Fisheries Commission
IMAGIN	Irish Sea Marine Aggregates Initiative	NMCI	National Maritime College of Ireland, Cork
IMCORE	Innovative Management for Europe's Changing Coastal Resource	NOAA	National Oceanic and Atmospheric Administration
INAB	Irish National Accreditation Board	NSC	National Salmon Commission
INFOMAR	INtegrated Mapping FOr the Sustainable Development of Ireland's Marine Resource	NUIC	National University of Ireland, Cork
INTERCAFE	Project to improve European scientific knowledge of cormorant fisheries interactions.	NUIG	National University of Ireland, Galway
IPNV	Infectious Pancreatic Necrosis Virus	NZ	New Zealand
IRCSET	Irish Research Council for Science, Engineering and Technology	OIE	Office International des Epizooties (World Organisation for Animal Health)
ISA	Infectious Salmon Anaemia	OSPAR	Oslo and Paris Convention (1992)
		OSS	Ocean Science Services of the Marine Institute
		OST	Office of Science and Technology

GLOSSARY OF ABBREVIATIONS

PAD	Petroleum Affairs Division	RDS	Royal Dublin Society
PCB	Polychlorinated biphenyls	RPII	Radiological Protection Agency of Ireland
PCR	Polymerase Chain Reaction	ROV	Remote Operated Vehicle
PMDS	Performance Management Development Systems	SALSEA	International Salmon At Sea research programme
PSP	Paralytic Shellfish Poisoning	SCOFAH	Standing Committee on the Food Chain and Animal Health
QUASIMEME	Quality Assurance of Information for Marine Environmental Monitoring in Europe	SCMU	Sea Change Management Unit
R&D	Research and Development	SDMS	Ships Data Management System
RAC	Regional Advisory Council	SINTEF	Stiftelsen For Industriell og TEknisk Forskning – Norwegian research organisation
RASATA	Rapid Azapriacid Shellfish Toxin Analysis	SIP	Science-Industry Partnership
RPB	Radiological Protection Institute of Ireland	SKEMA	An FP7 project to create a Sustainable Platform for the European Maritime and Logistics Industry
RTÉ	Radio Teilifis Éireann	SMEs	Small to Medium Sized Enterprises
RTD	Research, Technology and Development	SMS	Short Message Service
RTDI	Research, Technology, Development and Innovation	SPDS	Strategic Planning and Development Services of the Marine Institute
RV	Research Vessel	STECF	Scientific, Technical and Economic Committee on Fisheries
M&E	Maintenance and electrical	SSTI	Strategy for Science Technology and Innovation
MARIFISH	An ERA-NET FP6 project to strengthen the links between fisheries science and fisheries management	TAC	Total Allowable Catch
MarinERA	Project funded by the ERA-Net Scheme of the EU FP6 (2004-2008)	TCD	Trinity College Dublin
MATSIS	Methods of assessment of trophic status in the Irish Sea	UCC	University College Cork
MBP	Marine Biodiscovery Programme	UCD	University College Dublin
MCA	Maritime and Coastguard Agency	UETP	University Enterprise Training Partnership
MEFEPO	Making the European Fisheries Ecosystem Plan Operational	UK	United Kingdom
MESH	Mapping European Seabed Habitats	UN	United Nations
MIDTAL	Microarrays for the detection of toxic algae	UNCLOS	United Nations Convention on the Law of the Sea
NPWS	National Parks and Wildlife Service	UNICPOLOS	United Nations Informal Consultative Process on the Oceans and the Law of the Sea
NUJ	National Union of Journalists	US	United States
NUIM	National University of Ireland Maynooth	USA	United States of America
PHYTOTEST	Project to develop gene probes for harmful phytoplankton species		
PROPS	FP7 project to create a Promotional Platform for short sea shipping and intermodality		

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL

FOR PRESENTATION TO THE HOUSES OF THE OIREACHTAS

I have audited the financial statements of the Marine Institute for the year ended 31 December 2007 under the Marine Institute Act 1991.

The financial statements, which have been prepared under the accounting policies set out therein, comprise the Accounting Policies, the Income and Expenditure Account, the Statement of Total Recognised Gains and Losses, the Balance Sheet, the Cash Flow Statement and the related notes.

RESPECTIVE RESPONSIBILITIES OF THE INSTITUTE AND THE COMPTROLLER AND AUDITOR GENERAL

The Institute is responsible for preparing the financial statements in accordance with the Marine Institute Act 1991, and for ensuring the regularity of transactions. The Institute prepares the financial statements in accordance with Generally Accepted Accounting Practice in Ireland. The accounting responsibilities of the Members of the Board are set out in the Statement of Responsibilities of the Board.

My responsibility is to audit the financial statements in accordance with relevant legal and regulatory requirements and International Standards on Auditing (UK and Ireland).

I report my opinion as to whether the financial statements give a true and fair view, in accordance with Generally Accepted Practice in Ireland. I also report whether in my opinion proper books of account have been kept. In addition, I state whether the financial statements are in agreement with the books of account.

I report any material instance where moneys have not been applied for the purposes intended or where the transactions do not conform to the authorities governing them.

I also report if I have not obtained all the information and explanations necessary for the purposes of my audit.

I review whether the Statement on Internal Financial Controls reflects the Institute's compliance with the Code of Practice for the Governance of State Bodies and report any material instance where it does not do so, or if the statement is misleading or inconsistent with other information which I am aware from my audit of the financial statements. I am not required to consider whether the Statement on Internal Financial Control covers all financial risks and controls, or to form an opinion on the effectiveness of the risk and control procedures.

I read other information contained in the Annual Report, and consider whether it is consistent with the audited financial statements. I consider the implications of my report if I become aware of any apparent misstatements or material inconsistencies with the financial statements.

BASIS OF AUDIT OPINION

In the exercise of my function as Comptroller and Auditor General, I conducted my audit of the financial statements in accordance with International Standards on Auditing (UK and Ireland) issued by the Auditing Practices Board and by reference to the special considerations which attach to State bodies in relation to their management and operation. An audit includes examination, on a text basis, of evidence relevant to the amounts and disclosures and regularity of the financial transactions included in the financial statements. It also includes an assessment of the significant estimates and judgements made in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations that I considered necessary in order to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or other irregularity or error. In forming my opinion I also evaluated the overall adequacy of the presentation of information in the financial statements.

OPINION

In my opinion, the financial statements give a true and fair view, in accordance with Generally Accepted Accounting Practice in Ireland, of the state of the Institute's affairs at 31 December 2007 and of its income and expenditure for the year then ended.

In my opinion, proper books of account have been kept by the Institute. The financial statements are in agreement with the books of account.



Comptroller and Auditor General


19 November 2008

STATEMENT OF RESPONSIBILITIES OF THE BOARD

Section 12 of the Marine Institute Act, 1991, requires the Institute to prepare financial statements in such a form as may be approved by the Minister for Department of Agriculture, Fisheries and Food. In preparing those financial statements, the Board of the Institute is required to:

- Select suitable accounting policies and apply them consistently;
- Make judgements and estimates that are reasonable and prudent;
- State whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- Prepare the financial statements on a going concern basis unless it is inappropriate to presume that the Institute will continue in operation.

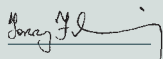
The Institute is responsible for keeping proper books of account which disclose with reasonable accuracy at any time the financial position of the Institute and which enable it to ensure that the financial statements comply with Section 12(1) of the Act. The Institute is also responsible for safeguarding its assets and for taking reasonable steps for the prevention and detection of fraud and other irregularities.



Board Member

29th Oct 2008

Date



Board Member

29 October 2008

Date

STATEMENT ON INTERNAL FINANCIAL CONTROL

On behalf of the Board of the Marine Institute I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

The system can only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or irregularities are either prevented or would be detected in a timely period.

The Board has taken steps to ensure an appropriate control environment is in place by:

- Clearly defining management responsibilities and powers;
- Establishing formal procedures for monitoring the activities and safeguarding the assets of the organisation;
- Developing a culture of accountability across all levels of the organisation.

A review of risk management was carried out in 2007 which included:

- An evaluation of the appropriateness and effectiveness of the existing policy and procedures in identifying and evaluating business risks;
- The identification of the nature, extent and financial implication of risks facing the body including the extent and categories which it regards as acceptable;
- The assessment of the likelihood of identified risks occurring;
- An undertaking to continue working closely with Government and various Agencies to ensure that there is a clear understanding of the Marine Institute's goals and support for the Institute's strategies to achieve those goals.

The system of internal financial control is based on a framework of regular management information, administration procedures including segregation of duties, and a system of delegation and accountability. In particular it includes:

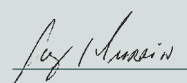
- A comprehensive budgeting system with an annual budget which is reviewed and agreed by the Board;
- Regular reviews by the Board of periodic and annual financial reports which indicate financial performance against forecasts;
- Setting targets to measure financial and other performance;
- Formal project management disciplines.

The Marine Institute has established an internal audit function that operates in accordance with the Framework Code of Best Practice set out in the Code of Practice on the Governance of State Bodies. The work of internal audit is informed by analysis of the risk to which the body is exposed, and annual internal audit plans are based on this analysis. The analysis of risk and the internal audit plan for 2007 was endorsed by the Audit Committee and approved by the Board. The Audit Committee has received the report of internal audit activity in 2007, and this was presented to the Board.

The report included the Internal Auditor's opinion on the adequacy and effectiveness of the system of internal financial control. The Board's monitoring and review of the effectiveness of the system of internal financial control is informed by the work of the internal auditor, the audit committee which oversees the work of the internal auditor, the executive managers within the Marine Institute who have responsibility for the development and maintenance of the financial control framework, and comments made by the Comptroller and Auditor General in his management letter.

The Board reviewed and approved of the effectiveness of the system of internal financial controls in 2007.

On behalf of the Board:


Chairman

Date: 29th Oct 2008

ACCOUNTING POLICIES

YEAR ENDED 31 DECEMBER 2007

1. GENERAL

The financial statements have been prepared under the accruals method of accounting, except as stated below, and in accordance with generally accepted accounting principles. Financial reporting standards recommended by the recognised accounting bodies are adopted as they become operative.

2. INCOME

Income arising from Oireachtas Grant in Aid is recognised on a cash receipts basis.

3. FIXED ASSETS AND DEPRECIATION

Depreciation is provided for on a straight line basis at rates estimated to reduce the assets to their realisable value by the end of their expected lives. The rates in use are as follows:

Buildings	2%
Fixtures & Fittings	25%
Computers	33%
Research Vessel	4%
Research Vessel Equipment	25%
Research Vessel Refit	20%
Motor Vehicles	20%
Land is not depreciated	

4. LEASED ASSETS

Payments under operating leases (Note 17) are charged to the income and expenditure account in the year to which they relate.

5. CAPITAL ACCOUNT

The Capital Account represents the unamortised value of income applied for capital purposes.

6. FOREIGN CURRENCIES

Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rates ruling at the Balance Sheet date. Revenues and costs are translated at the exchange rates ruling at the dates of the underlying transactions.

7. MARINE RESEARCH TECHNOLOGY DEVELOPMENT INNOVATION PROJECTS (RTDI)

The Marine Institute enters into commitments in respect of contracts awarded for Marine RTDI projects. Expenditure is charged in the financial statements on the basis of initial payments made on signing of the project contract, an interim payment may be made subject to satisfactory performance and further payments are charged on receipt and verification of claims in respect of work completed. Costs incurred by the Institute in the administration of RTDI projects are funded by the National Development Plan (NDP) and charged to the financial statements as they are incurred.

8. DEFERRED FUNDING ASSET FOR PENSIONS

The Marine Institute operates defined benefit pension schemes which are funded annually on a pay as you go basis from monies available to it, including monies provided by the Department of Agriculture, Fisheries and Food.

Pension costs reflect pension benefits earned by employees in the period and are shown net of staff pension contributions which are remitted to the Department of Agriculture, Fisheries and Food. An amount corresponding to the pension charge is recognised as income to the extent that it is recoverable, and offset by grants received in the year to discharge pension payments.

Actuarial gains or losses arising on scheme liabilities are reflected in the Statement of Recognised Gains and Losses and a corresponding adjustment is recognised in the amount recoverable from the Department of Agriculture, Fisheries and Food.

Pension liabilities represent the present value of future pension payments earned by staff to date. Deferred pension funding represents the corresponding asset to be recovered in future periods from the Department of Agriculture, Fisheries and Food.

INCOME AND EXPENDITURE ACCOUNT

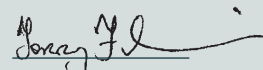
YEAR ENDED 31 DECEMBER 2007

		2007	2006
	NOTE	€'000	€'000
Income			
Direachtas Grants	2	31,927	27,839
Other Income	3	7,069	8,563
Net Deferred Funding For Pensions	16	2,537	2,051
		41,533	38,453
Transfer (to)/from Capital Account	11	1,084	(1,125)
		42,617	37,328
Expenditure			
Corporate Services	4	5,086	6,501
Strategic Planning and Development Services	5	2,941	3,051
Marine Environment and Food Safety Services	6	5,358	5,649
Fisheries Science Services	7	4,087	3,646
Aquaculture and Catchment Management Services	8	2,583	2,887
Ocean Science Services	9	11,174	10,611
Irish Maritime Development Office	10	1,235	1,325
Marine RTDI and SSTI Programme	13	7,981	6,276
Pensions Costs	16	2,342	1,876
Total Expenditure		42,787	41,822
Surplus/(Deficit) for the year		(170)	(4,494)
Surplus at 1 January		4,828	9,322
Surplus at 31 December		4,658	4,828
Statement of Total Recognised Gains and Losses			
Surplus/(Deficit) for the year		(170)	(4,494)
Actuarial Gains/(Losses) on Pension Scheme Liabilities		237	(49)
Changes in Assumptions		(237)	49
Total Recognised Gains and Losses for the year		(170)	(4,494)

The results for the year relate to continuing operations. The Statement of Accounting Policies and Notes 1 – 21 form part of these financial statements.


Board Member

Date: 29th Oct 2008


Board Member

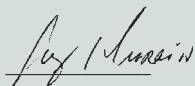
Date: 29 October 2008

BALANCE SHEET

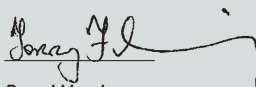
AS AT 31 DECEMBER 2007

		2007	2006
	NOTE	€'000	€'000
Fixed Assets	12	32,919	34,003
Current Assets			
Debtors and Prepayments	14	4,576	4,813
Banks and Cash		4,612	6,487
		9,188	11,300
Current Liabilities			
Creditors and Accruals	15	4,530	6,472
Net Current Assets		4,658	4,828
Total Assets Less Current Liabilities before Pensions			
Deferred Pension Funding		18,300	16,000
Pension Liabilities		(18,300)	(16,000)
Total Assets less Current Liabilities		37,577	38,831
Financed By:			
Capital Account	11	32,919	34,003
Income and Expenditure Account		4,658	4,828
		37,577	38,831

The Statement of Accounting Policies and Notes 1 - 21 form part of these financial statements.



Board Member



Board Member

Date: 29th Oct 2008

Date: 29 October 2008

CASH FLOW STATEMENT

FOR THE YEAR ENDED 31 DECEMBER 2007

RECONCILIATION OF OPERATING SURPLUS/(DEFICIT) TO NET CASH FLOW FROM OPERATING ACTIVITIES

		2007	2006
	NOTE	€'000	€'000
Surplus/(Deficit) per Income and Expenditure Account		(170)	(4,494)
Interest received		(132)	(134)
Transfer to/(from) Capital Account		(1,084)	1,125
Depreciation	12	4,911	4,005
Decrease/(Increase) in Debtors and Prepayments		237	(1,351)
(Decrease) /Increase in Creditors and Accruals		(1,942)	2,528
Net cash inflow from operating activities		1,820	1,679

CASH FLOW STATEMENT

		2007	2006
		€'000	€'000
Net cash inflow from operating activities		1,820	1,679
Returns on investments and servicing of finance			
Interest received		132	134
Net capital expenditure			
Acquisition of fixed assets	12	(3,827)	(5,130)
Increase/(Decrease) in cash		(1,875)	(3,317)

RECONCILIATION OF NET CASH FLOW TO MOVEMENT IN NET FUNDS

		2007	2006
		€'000	€'000
Increase/(Decrease) in cash		(1,875)	(3,317)
Net funds at 1 January		6,487	9,804
Net funds at 31 December		4,612	6,487

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

1. GENERAL

The Marine Institute was established on 30 October, 1992 in accordance with the provisions of the Marine Institute Act, 1991,

“to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Institute will promote economic development and create employment and protect the marine environment.”

The Financial Statements cover the Year Ended 31 December 2007

2. GRANT IN AID

	2007		2006	
	€'000	€'000	€'000	€'000
Current purposes				
Marine Institute	18,817		18,960	
Less Superannuation contributions repayable*	(408)	18,409	(384)	18,576
Capital purposes				
National Seabed Survey	3,288		2,263	
Marine Institute	1,500		2,000	
SSTI Programme (Note 13)	2,730		0	
Research and Technical Development Infrastructure (RTDI) (Note 13)	6,000	13,518	5,000	9,263
		31,927		27,839

* By agreement with the Department of Agriculture, Fisheries and Food this amount is refundable in respect of employee pension contributions.

3. OTHER INCOME

	2007		2006	
	€'000	€'000	€'000	€'000
EU Contract Research				
Data Directive (see note below)	2,251		1,906	
Other	1,161		1,318	
		3,412		3,224
Other Income				
Research Vessel Charterage	1,350		2,861	
Databuoy – Department of Transport	515		557	
Change Management Fund	121		142	
Sundry and Other Contract Income	1,671	3,657	1,779	5,339
TOTAL		7,069		8,563

The Data Directive is a European wide Directive establishing a community framework on the collection and management of data needed to conduct the Common Fisheries Policy.

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

4. CORPORATE SERVICES

	2007	2006
	€'000	€'000
Wages and Salaries	1,187	1,158
Administration	2,816	4,568
Depreciation	1,083	775
TOTAL	5,086	6,501

Included in the Wages and Salaries in Corporate Services are the employee contributions payable to the Department of Agriculture, Fisheries and Food in respect of the Marine Institute pension scheme. Administration costs include an audit fee of €20,500 in 2007 (2006: €19,600)

5. STRATEGIC PLANNING AND DEVELOPMENT SERVICES

	2007	2006
	€'000	€'000
Wages and Salaries	1,196	1,129
Research & Development Programmes	1,006	1,349
Depreciation	739	573
TOTAL	2,941	3,051

6. MARINE ENVIRONMENT AND FOOD SAFETY SERVICES

	2007	2006
	€'000	€'000
Wages and Salaries: Core staff	2,292	2,118
EU Contract Staff	117	153
	2,409	2,271
Research & Development Programmes	2,709	3,166
Depreciation	240	212
TOTAL	5,358	5,649

NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

7. FISHERIES SCIENCE SERVICES

	2007	2006
	€'000	€'000
Wages and Salaries: Core Staff	1,000	893
EU Contract Staff	895	742
	1,895	1,635
Research & Development Programmes	1,946	1,791
Depreciation	246	220
TOTAL	4,087	3,646

8. AQUACULTURE AND CATCHMENT MANAGEMENT SERVICES

	2007	2006
	€'000	€'000
Wages and Salaries: Core Staff	1,335	1,218
EU Contract Staff	48	91
	1,383	1,309
Research & Development Programmes	1,004	1,379
Depreciation	196	199
TOTAL	2,583	2,887

9. OCEAN SCIENCE SERVICES

	2007	2006
	€'000	€'000
Wages and Salaries	630	578
Administration & Development Programmes	8,198	8,028
Depreciation	2,346	2,005
TOTAL	11,174	10,611

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

10. IRISH MARITIME DEVELOPMENT OFFICE

	2007	2006
	€'000	€'000
Wages and Salaries	249	300
Administration & Development Programmes	965	1,004
Depreciation	21	21
TOTAL	1,235	1,325

Summary of Salary Costs At 31 Dec 2007, The Institute employed 202 staff at a cost of €9.164m (€8.592m in 2006), of which 147 are core staff and the balance of 55 are contract staff.

11. CAPITAL ACCOUNT

	2007		2006	
	€'000	€'000	€'000	€'000
Balance at 1 January		34,003		32,878
Transfer (to) /from Income and Expenditure Account	3,827		5,130	
Capital funding	(4,911)		(4,005)	
Amortisation in line with asset depreciation		(1,084)		1,125
Balance at 31 December		32,919		34,003

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

12. FIXED ASSETS

Fixed Assets as stated in the financial statements are made up as follows:

	LAND & BUILDINGS €'000	RESEARCH VESSELS €'000	VESSEL EQUIPMENT €'000	FIXTURES & FITTINGS €'000	COMPUTERS €'000	MOTOR VEHICLES €'000	TOTAL €'000
Cost or Valuation							
Balance at 1 January 2007	7,015	30,043	2,551	13,989	6,335	241	60,174
Additions at cost			268	2,487	1,022	50	3,827
Disposal						(39)	(39)
Cost at 31 December 2007	7,015	30,043	2,819	16,476	7,357	252	63,962
Depreciation							
Balance at 1 January 2007	1,124	6,312	2,172	11,411	4,972	180	26,171
Charge for the year	140	1,522	216	1,674	1,328	31	4,911
Disposal						(39)	(39)
Balance at 31 December 2007	1,264	7,834	2,388	13,085	6,300	172	31,043
Net Book Value							
At 31 December 2007	5,751	22,209	431	3,391	1,057	80	32,919
At 31 December 2006	5,891	23,731	379	2,578	1,363	61	34,003

Included in the gross balance of Land and Buildings is an amount of €1.206m which represents the professional valuation of the Fisheries Research Centre in Abbotstown, Dublin at 1 January 1996. Title is vested in the Minister for Agriculture, Fisheries and Food. The Institute remains in occupation of the Abbotstown facility and is in the process of making arrangements for the remaining staff to be accommodated in the Dublin area. It is anticipated that notice to vacate the site will be received from the Department of Agriculture in the course of 2008 or early 2009. As a result the professional valuation at 1 January 1996 has not been revised. The remainder of the assets are stated at cost.

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

13. MARINE RTDI AND STRATEGY FOR SCIENCE, TECHNOLOGY AND INNOVATION (SSTI) PROGRAMME (2000-2006) (2007-2013), NATIONAL DEVELOPMENT PLAN

The Income and Expenditure in 2007 was as follows:

	2007	2007	2006
	€'000	€'000	€'000
	NDP AND SSTI 2007-2013	NDP2002-2006	NDP2002-2006
Oireachtas Income (Note 2)	8,730		5,000
Expenditure:			
Projects	6,331	1,148	5,993
Administration	445	57	283
Total Expenditure	6,776	1,205	6,276
Surplus/(deficit) in year	1,954	(1,205)	(1,276)

The primary objectives of the Marine RTDI Measure 2002-2006 are to enhance and consolidate the performance of the marine sector in Ireland through support for R&D and technology transfer activities and provide the RTDI capacity and infrastructure to enable Ireland to fully utilise her marine resource potential in a sustainable manner. Expenditure comprises PhD Scholarships, Post Doctorate Scholarships, Michael Manahan Fellowship, Desk Studies, Applied/Industry Projects, Networking and Technology Transfer projects and Strategic projects.

The total investment in RTDI projects under the National Development Plan (NDP) between the period 2002 - 2006 was 226 projects or an investment of €15.841m of which the outstanding commitments of €2.830m represent the final payments.

Under the Marine RTDI Measure 2007-2013 investment in marine research over the period 2007-2013, via the Marine Research Sub-Programme of the NDP, will be targeted at addressing the objectives, research activities and outputs of *Sea Change*, the national marine knowledge, research and innovation strategy. Funding will be targeted at the Research Measures and Programmes of the strategy via a range of mechanisms, including competitive calls for research proposals (project-based awards, desk studies, PhDs, Post-Docs etc.) and tendering for the provision of infrastructure/services. A total of 26 new projects were supported in 2007 under the Marine Research Sub-Programme of the NDP.

In late 2006, the Marine Institute secured funding of €7.41m over 24 months under the Governments Strategy for Science, Technology and Innovation (SSTI) for three research programmes: a. Marine Functional Research Programme; b. Marine Climate Change Programme; c Integrated Marine Exploration Programme.

The total commitments entered into in 2007 for Marine Research Sub-Programme of the NDP and SSTI were €22.503m of which the outstanding commitments of €16.172m represent the remaining payments.

Marine RTDI Projects awarded are subject to contract which specifies that an initial payment will be made on signing of the contract; an interim payment may be made subject to satisfactory performance with final payment made on receipt of and verification of claims. Expenditure is charged in the financial statements in accordance with Accounting Policy 7.

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

NOTE 13 CONTINUED

At 31 December 2007 payments were outstanding on amounts charged to the financial statements as follows (note 15).

	2007	2006
	€'000	€'000
Amounts Outstanding	397	497

At 31st December 2007 commitments entered into but not yet charged to the financial statements in respect of RTDI projects and SSTI programmes were €18.929m with the following breakdown.

	NDP AND SSTI 2007-2013	NDP 2002-2006
	€'000	€'000
Commitments as at 31 December 2006	0	4,155
Committed in 2007	22,503	0
Decommitted	0	(177)
Paid in 2007	(6,331)	(1,148)
Commitments as at 31 December 2007	16,172	2,830

These figures exclude Marine Institute administration of NDP Projects.

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

14. DEBTORS AND PREPAYMENTS

	2007	2006
	€'000	€'000
Trade Debtors	2,178	1,604
Contract Income	2,315	1,470
Prepayments	83	1,739
	4,576	4,813

15. CREDITORS AND ACCRUALS

	2007	2006
	€'000	€'000
Trade Creditors	1,677	4,131
Deferred Income	1,518	792
RTDI Accrual (Note 13)	397	497
Accruals	31	278
Payroll	907	686
Taxation Provision	0	88
	4,530	6,472

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

16. SUPERANNUATION SCHEME AND SPOUSE & CHILDREN'S CONTRIBUTORY PENSION SCHEME

The Marine Institute is a statutory State agency, established under section 3(1) of the Marine Institute Act, 1991 (No. 2 of 1991). Section 9(1) of the Act provides that the Institute shall make schemes for the granting of superannuation benefits to and in respect of staff members, subject to Ministerial approval. Two such approved schemes - the Marine Institute Staff Superannuation Scheme 1998 and the Marine Institute Spouses' and Children's Contributory Pension Scheme 1998 are being operated by the Institute. The former scheme provides retirement benefits (lump sum and pension) to staff members, and death gratuity benefits in respect of death in service. The latter scheme provides pension benefits for the surviving spouses and dependant children of deceased members. Both schemes are defined benefit superannuation schemes. Staff Superannuation contributions are paid over to the Department of Agriculture, Fisheries and Food.

In common with the generality of public service superannuation schemes, no separate fund is maintained, or assets held, to finance the payment of pensions and gratuities. For the purposes of reporting in accordance with Financial Reporting Standard 17 - Retirement Benefits, the Institute has been advised by a qualified actuary. A valuation has been prepared by the actuary in order to assess the liabilities of the superannuation schemes at 31 December 2007

The major financial assumptions used to calculate liabilities under FRS 17 are as follows:

	2007	2006	2005
Inflation rate increase (a)	2% per annum	2% per annum	2% per annum
Salary rate increase	4% per annum	4% per annum	4% per annum
Pension rate increase	4% per annum	4% per annum	4% per annum
Scheme liabilities discount rate	5.5% per annum	5.5% per annum	5.5% per annum

On the basis of these and other assumptions and applying the projected unit method prescribed in FRS 17, the pension deferred funding asset and pension liability is as follows:

	2007	2006
Total accrued pension liability	€18.3m	€16.0m

(a) As pension increases under the Marine Institute schemes are based on salary increases rather than on price increases, a price inflation assumption is not necessary for the purposes of this valuation. However, since FRS 17 requires reference to an assumed rate of inflation, the above rate would be appropriate for this purpose.

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

	2007	2006
	€'000	€'000
Analysis of the amount charged to operating profit		
Current Service Cost	1,850	1,500
Interest on pension scheme liabilities	900	760
Employee Contributions	(408)	(384)
	2,342	1,876
Analysis of the amount recognised in a statement of total recognised gains and losses (STRGL)		
Experience gains and (losses)	237	(49)
Changes in assumptions underlying the present value of scheme liabilities	0	0
Actuarial gain and (loss) recognised in STRGL	237	(49)
Net Deferred Funding for Pensions in the year		
Current Service and Interest Cost	2,750	2,260
Less benefits paid in the year	(213)	(209)
Actuarial gain and (loss) recognised in STRGL	2,537	2,051

The Marine Institute recognises these amounts as an asset corresponding to the unfunded deferred liability for pensions on the basis of the set of assumptions described above and a number of past events. These events include the statutory backing for the superannuation scheme and the policy and practice in relation to funding public service pensions, including contributions from employees and the annual estimates process. The Marine Institute has no evidence that this funding policy will not continue to meet such sums in accordance with current practice. The deferred funding asset for pensions as at 31 December 2007 amounted to €18.3 million (2006: €16.0 million). The quantification of the liability is based on the Financial assumptions set out in this note. The assumptions used, which are based on professional actuarial advice, are advised to the Department of Agriculture, Fisheries and Food but are not formally agreed with the Department.

Analysis of movement in liability during the year		
Deficit at the beginning of the year	16,000	13,900
Current Service Cost	1,850	1,500
Interest on Scheme Liabilities	900	760
Actuarial (Gain) Loss recognised in the STRGL	(237)	49
Benefits paid in the year	(213)	(209)
Deficit at the end of the year	18,300	16,000

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2007

17. LEASE COMMITMENTS

Operating Leases

The operating lease relates to the lease of the premises at 80 Harcourt Street, Dublin 2. The lease is for a period of 22 years from 1 September 1993. The annual rent is €244,620. There is a rent review every 5 years, with lease breaks in the 7th and 14th year. The lease is to be assigned to the Office of Public Works in 2008.

Finance Leases

There was one finance lease commitment at 31 December 2007. €'000

Amounts due within 1 year €0

18. INVESTMENT

The Marine Institute has a 5% shareholding in a company called Wavebob Ltd. This company was established to develop a concept in delivering Wave Energy. The total cost of the investment is €127,000. As it is not possible to accurately assess the value of this investment, the shares are not capitalised in the Balance Sheet.

19. JOINT VENTURE - MARINE TECHNICAL AND DEVELOPMENT SERVICES LTD. (MTDS)

The Marine Institute is a partner in a joint venture company, Marine Technical and Development Services Ltd., which was incorporated in 1998. It holds 51% of the equity capital with the remainder held by Marine Technology Ltd (25%) and another shareholder (24%). MTDS is located in Galway and its primary business is the management, crewing and operation of the research vessels 'RV Celtic Voyager' and 'RV Celtic Explorer'. MTDS ceased to trade on the 5th March 2006 and it is the intention of the Board of MTDS that a voluntarily wind-up of the company will be finalised during 2008. There will be no impact in the accounts of the Institute as a result of the winding up.

20. REGISTER OF INTERESTS

The Institute has adopted procedures in accordance with the guidelines issued by the Department of Finance in relation to the disclosure of interest by Board members and the Institute has adhered to these procedures. There were no transactions in the year in relation to the Institute's activities in which board members had a beneficial interest.

21. BOARD APPROVAL

The financial statements were approved by the Board on the 29th October 2008.



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